DOCUMENT RESUME

ED 240 420 CG 017 249

AUTHOR Paskewicz, Charles W.; And Others

TITLE S. EX. and the School Psychologist. School Experimentation and the School Psychologist.

INSTITUTION West Virginia Coll. of Graduate Studies, Institute.

SPONS AGENCY Iowa State Dept. of Public Instruction, Des Moines. School Psychological Services.
PUB DATE 83
NOTE 108p.
PUB TYPE Guides - Non-Classroom Use (055) -- Viewpoints (120)

EDRS PRICE MF01/PC05 Plus Postage.
DESCRIPTORS *Counseling Techniques; *Counselor Role; Elementary Secondary Education; Problem Solving; Research Design; *Research Opportunities; *Research Utilization; *School Psychologists

ABSTRACT

This book emphasizes the importance of research to the school psychologist. Written in a conversational style, it looks at research as a tool for problem solving and a basis for action rather than as an academic exercise. Research is described as an interaction, a point of contact to get things moving, a different way of seeing a problem. The usual parts of a research article--literature review, methodology, results and conclusions--are reviewed and some of their shortcomings are discussed. Guidelines are presented for psychologists who want to initiate the research role. Research is defined and the qualifications of the researcher are discussed. Examples of research as a problem solving intervention are discussed in three sections: program evaluation studies, N=1 projects, and descriptive and predictive projects. Each is illustrated by case examples. Although psychology is an applied profession, the place of research in school psychology is described as a way of informing and directing practice. The importance of sharing information with the public is addressed. Research as it appears in school psychology journals is reviewed, and the problem of why research is not carried out more frequently by school-based psychologists is discussed. The use of computers by school psychologists is noted briefly. (JAC)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED240420

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

This document has been reproduced as received from the person or organization originating it.

Minor changes have been made to improve reproduction quality.

Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

S.EX.
and the School Psychologist

Charles W. Paskewicz
Stephen L. O'Keefe
Robert D. Clark

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Carl Linden
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Iowa Department of Public Instruction

School Psychological Services

CG017849

State of Iowa
DEPARTMENT OF PUBLIC INSTRUCTION
Grimes State Office Building
Des Moines, Iowa 50319

STATE BOARD OF PUBLIC INSTRUCTION

Karen K. Goodenow, President, Wall Lake
William N. Cropp, Vice-President, Des Moines
Jolly Ann Davidson, Clarinda
Lucas DeKoster, Hull
Stephen C. Gerard, Sigourney
John Moats, Council Bluffs
Dianne L. D. Paca, Garner
Mary E. Robinson, Cedar Rapids
Susan M. Wilson, Waterloo

ADMINISTRATION

Robert D. Benton, State Superintendent and Executive Officer of the State Board of Public Instruction
David H. Bechtel, Administrative Assistant
James E. Mitchell, Deputy Superintendent

Division of Special Education

J. Frank Vance, Director
Richard E. Fischer, Chief, Support Services
Jeff Grimes, Consultant, Psychological Services

K-08493

S. EX. AND THE SCHOOL PSYCHOLOGIST

SCHOOL EXPERIMENTATION

AND THE

SCHOOL PSYCHOLOGIST

Charles W. Paskewicz
Robert D. Clark
Stephen L. O'Keefe

1983

West Virginia College Of Graduate Studies

School Psychological Services
Iowa Department of Public Instruction

CG 017249

Now that I have your attention, may I point out the periods after the "S" and the "EX". You see, in your lust for titillation, you overlooked it. These two symbols make up an acronym which, in this case, stands for "school experimentation".

If you had noticed this previously and surmised that it was indeed a cheap come-on and you are still reading up to this point, welcome.

I have a shelf full of research methodology and statistics tomes and tombs in my office. I have a peculiar approach to books: books aren't read, they speak to you. Most of the research books sound like Darth Vader. I guess that is because their purpose is to control the universe or be damned in the fires where unpublished papers burn. Stat books have the tiny voice of a computer synthesizer. That may be because their purpose is simply mechanical, or to inspire other-worldly awe.

None of these books have moved me away of my office desk and out to do research. None of these books have said to me: "Hey, school psychologist! You're a problem solver, right? Right! You use many tactics to solve the problems you see: you can diagnose, consult, in-service, etc. You've been seeking to expand your role. You've also been trained, whether joyfully or not, in doing research and for a purpose. Just define your own purpose and adapt and do it."

So, for a change, this book says

"Hey, school psychologist...."

TABLE OF CONTENTS

I. CONTEXT AND PURPOSE 5

II. PROBLEMS IN DOING RESEARCH 13

III. RESEARCH AS PROBLEM SOLVING/INTERVENTION 47

IV. RESEARCH IN SCHOOL PSYCHOLOGY 71

Preface

For the biggest bang for your buck, read the whole book in order. Charlie wrote the sections on context and purpose, as well as problems. Bob authored the literature review in section IV and with Charlie shared the N=1 and project stories in the intevention section. Steve specialized in the program evaluation part of the intervention section. We all experimented with a personal writing style that we hope shares our thoughts and experiences in a way that makes the reading as easy as a conversation.

Please send us comments, ask for material we may have mentioned, tell us your research/intervention stories, give us suggestions on how to initiate research, send us a dollar (Soupy Sales was a West Virginian), or just tell us you enjoyed it. We are all at: The Psychology Program, West Virginia College Of Graduate Studies, Institute, WV 25112. Or call (304) 768-9711.

We dedicate this work to our wives:

Malinda, Lynn and Pat

CONTEXT AND PURPOSE

CONTEXT

It was when I heard of a course called "creative accounting" that I realized that you can adapt anything for your purpose: to make a point, to change a view-point. So you see, this book is a "school experiment." It is designed to make a point and to change a view point.

Jim Yesseldyke told a great story at a conference in Atlanta in 1975 or '76 on non-discriminatory assessment. Two groups of teachers were given different information about a child they were about to observe. The teachers in the first group were told that the child was a normal, average third grader and that this was an exercise in observation. The second group was also told that this was an observation exercise but were told that the boy was as crazy as a loon.

Both groups simultaneously observed a child actor enter the one-way mirrored room and

(1) read a book for a short while.
(2) play with some toys for a short while.
(3) hit a punching bag on the way out.

The first group reported seeing a child

(1) read
(2) play
(3) hit a punching bag before exiting.

The second group reported seeing a child so frustrated with his inability to read that he regressed in playing with toys to deal with his anxiety of inadequacy. This defense mechanism was

not enough, however, and the boy resorted to violence prior to complete withdrawal.

Jim concluded, "I never would have seen it had I not believed it."

Yes, please read the punch line again, the reversal effect takes a minute. Observation and facts are one thing. The context that gives meaning is quite another.

Beeman Phillips (1982) in his chapter "Reading and Evaluation Research in School Psychology" in The Handbook of School Psychology writes that "research should inform our actions as school psychologists." I underlined the word "should" because it highlights a problem in school psychology research. The "should" implies a conflict: it should inform but it doesn't. The facts that research has revealed are indeed just one thing. Context and purpose give meaning.

The problem is explored in Beeman's thesis that research as the basis for action is effective to the extent that it makes the school psychologist:

(1) aware of the major variables relevant to a problem;

(2) able to solve a problem in such a way that it remains solved, at lease until the external situation changes in important ways; and

(3) capable of accomplishing these ends without reducing the present level of problem solving effectiveness of the school psychologist or others in the system.

Let us look at these contingencies for effective research:

(1) "Awareness of major variables" depends on the theoretical orientation that the individual school psychologist has. Only within the context of a personal personality theory, built up by experience and education, whether or not is has been explicitly expressed, only in such a context can variables take on a position as major. A major variable to school psychology may be a waste of time to another. It is the belief system that enables variables to take in a seminal role ("I would never have seen it.....")

(2) "Problem solving" relates the two worlds of mind and action. The social psychology literature on the lack of correlation between attitudes and behaviors leads to a picture of a verbal world and an action world. The verbal world may contain our store of research results. Problems, therefore, can be found contained in the literature. The action world may contain problems from our experiences that may or may not be easily related to our construct of the world from research results (our education). In this way, the need for action may be the basis of effective research and changes in the context. Indeed the solution of problems depends on how the problem is defined, which depends on the theoretical language context ("I never would have seen it...").

(3) Problem solving through research without reduction of effectiveness in other areas makes the school psychologist appear like the Uninfluenced Influencer. Change is created by spending some of the influence you have generated by being

useful. If research informs our actions, many of our actions should have changed. As of now, only research compatible with our world-view is accepted; results incompatible with our view can't fit in and is not accepted or remembered. We selectively choose the research that informs us to protect us from too many views, too much change.

These two different positions illustrate the effect of context. Beeman is trying to encourage school psychologists to read and evaluate research for the purpose of entering a larger point of view: attitude by treatment interaction research. I am encouraging school psychologists to do contextual research for the purpose of creating language changes in which problems can be seen differently.

PURPOSE

Some universities have set the purpose in doing research. Publication, for whatever reason, is indeed one purpose for which research can be used. Why else would courses in research seem to reflect the desperation felt only at a leper's wake?

The classical list of reasons for doing research is as long as the forward of any introductory meth. des. res. sch. psych. (at least that's what it says on my transcript) textbook. However, traditional purposes don't apply for the same reasons adjectives used to describe children don't work: they take a dynamic, interpersonal reality and see it as a static, unchanging entity. This, of course, implies that there is nothing that you can do

about it, or rather nothing you want to do about it. It's like the difference between a referral and a referral form. Referral form implies that the "someone else" is the problem in isolation, without relationship to the referrer.

Most of us have a view of research as something out there in a journal, in a construct of ideas which does not affect our day-to-day functioning. Within this view, the notion of injecting research into our daily world appears as natural as processed food.

Research, however, can be seen as an interaction, like the other professional contacts we have with those we serve. These contacts that school psychologists have with teachers, children, administrators and parents are not merely social. They generally happen because something is not going well. This means that movement toward some goal has stopped because either the interaction has ended or both have agreed not to move for whatever reason.

The point of the contact is to get things moving again. But this implies a direction which implies a theory. Such a theory requires observations about what people are like leading to the ability to successfully predict. Clearly, both personal experience as well as knowledge of personality theory and the "change" literature is important. A personal theory requires not only a notion of a goal, but also insight into the ways people move toward and against goals. For instance, it's one thing to say that a client (customer of psychological services) should relax; it's another to get him there, past all the

reasons why he/she acts like it's really better not to be relaxed, despite verbal protestations to the contrary.

One of the ways to get people moving is to have them see the situation in a new way. This suggests a temporary depersonalization of the conflict which led to the intransigence.

One way to depersonalize is to have one of the parties to the conflict (say the teacher in a teacher-child conflict) view the other as if across a chess board. Then the behaviors can be seen as moves or tactics directed by the other to accomplish certain goals. Such a distancing strategy enables the teacher to see both sides in interaction without the burden of taking it personally. Ironically, or psycho-logically speaking, focusing totally on the other allows the interpersonal view to emerge. When self-consciousness decreases, we can "be-in-an-interaction" and not just act. It is also the easier place to begin. This brings teaching back to the cognitive detective game it was meant to be.

Another way to reduce the negative effects of self-consciousness, this time in a therapy situation, utilizes "third-person" therapy. My wife, Malinda, introduced this to me from her work as a teacher of the Behaviorally Disturbed. Third-person therapy requires that the therapist and customer speak only "as themselves", i.e., in the third person. For example, instead of saying "I want to know what happened to you", you might say, "Charlie wants to know what happened to Fred." In every case, the sentence begins with "(name)" thinks, says, wants, etc." This has the effect of inhibiting

self-conscious (personalized) monitoring of ideas and lets a sometimes surprising new view of the situation emerge without responsibility. For some psychology customers, responsibility requires the utilization of defenses against change. This method makes possible a new view which customers can then integrate with their currently expressed personality. This new view is "other than their own" but also uniquely their own.

Customers have expressed how free they felt when talking in this way. They have also been able to follow their own leads and make changes based on this new view of their situation which they generated simply by taking a different linguistic view. Thus, a new view allowed the possibility and responsibility for change.

Another way to see and solve problems by reducing the personal aspects of the conflict situation is to see it as an experiment. This focuses attention not on the people involved but rather on the tactics used. It also makes the results more neutral: failure to change is seen as the implementation of a strategy that was not appropriate, and not as a personal failure. Seeing a problem as an experiment develops a distance which allows re-integration. The school psychologist can team up with the teacher to conduct a research project on the presenting problem, always accepting the initial assumption that the problem is "out there" and is not amenable to influence. The purpose to this type of research is to show that change is possible. Since the possibility of change is a scary proposition to the self-conscious, depersonalized techniques, including research, are most effective.

A friend of mine, Doug Schooler, a school psychologist, was consulting with a first-year teacher about her complaint that her class was so noisy that she and the children couldn't think anymore. Her attempts to quiet down the class were not successful. In addition, she felt bad that she could not control the class and felt that this reflected on her ability. Doug proposed a research project: measure the current noise level and monitor the effects of various experimental interventions with the sound decibel meter. While collecting baseline data, he reviewed the literature on classroom noise-reduction techniques. Within a month, a positive reinforcement technique had been found which demonstrated success. The result was then interpreted within the context of classroom management strategies so that lesson could be generalized within a point of view the new teacher could appreciate and reuse.

So, one of the purposes of research is to depersonalize a conflict situation so that a more helpful perspective can be used to see the possibility of change without blame for previous failures. No positive change follows blame and guilt. If therapy means change, the research can be an important therapeutic technique for th0se who are afraid of and self-consciuos about change.

PROBLEMS IN DOING RESEARCH

One of the blocks to doing research is the assumption the final product of research is written, publishable document. Analysis of the various, usual parts of a research article may prove helpful in changing that assumption.

The Literature Review

The literature review generally has as its purpose the posing of a question (hypothesis) to solve a problem. The problem usually comes out of a review of the literature. However, its connection with a present problem may be tenuous or non-existent.

The literature review strives to do nothing more than paint a picture of reality constructed from a variety of known (researched) facts. It's a story about what other observers have noticed. A theory (picture) sometimes seeks a fact to make the theory appear more internally consistent and then perhaps can be seen as more useful. Usefulness is the usual criterion for a theory. Sometimes facts in the literature are contradictory, and therefore, our view of the reality is conflicting. A conflicted picture of reality is unsatisfactory for action and ripe for a view which would create consistency and the possibility of change.

Sometimes a literature review does more than review the facts and organize a scenario. Sometimes the review is a

critical review. This type of review is useful if the purpose is to show how the brushstrokes (facts) of our painting (theory) which proport to describe reality in a useful way are unfortunately illusory. Critical reviews are like the waves that shatter our sand castles: a very useful event only before we move into that particular castle or notion of the way things are.

I have always been facinated by research presentations at the annual APA conventions. The presentation is inevitably followed, not by exploring a new world view developed from the research fact, but by a unceasing obsession with methodological righteousness. No one seems satisfied until the project is discredited. Critical reviews also generally focus on methodological errors.

When I was a graduate student at the University of Rhode Island, Wayne Velicer, a research and statistics professor, only half-heartedly suggested a moratorium on research except on the topic of why research hasn't changed anything. It seems that the hardest thing for research facts to change are our minds.

Shuck and Paskewicz (in press) reviewed the literature on mainstreaming of handicapped pupils in regular education classrooms. One of the conclusions drawn was that training in and the knowledge of the mainstreaming literature influenced few to change their attitudes or their behaviors.

A review of the retention literature (Phillips and Paskewicz, 1981) presents an unambiguous picture of the relative uselessness of retention for whatever declared purpose

is generally stated. Five educational advantages are often claimed for retention:

1) It aids the academic achievement of the child by assuring mastery. Not true.

2) It motivates the child to do well out of fear of failure. Not true.

3) It decreases the variability of achievement within the classroom. Not true.

4) It helps maintain high academic instructional standards within the classroom. Not true.

5) It allows immature children time to physically, emotionally or socially develop. Not true.

The general conclusion from studies of groups of children is that the literature contraindicates the usefulnss of retention. The principals, however, declared the literature "inconclusive."

Phillips and Paskewicz (1982) present a research story about principals and retention. They try to get into the heads of the principals and predict retention rates in their schools. They found that knowledge of the retention literature does not necessarily influence the rate at which principals retain. What does influence them appears to be anecdotes about a retained child. Dramatic stories and powerful concrete images rule the creation and maintenance of a world view and thus determine action. Abelson (1966) calls them "Sweeping concretizations."

Phillips (1982) references Glasser who concluded that "a commitment to the continued improvement of schools will play a significant role in the utilization of knowledge." But there appears to be no one who has agreed to be the "bad guy" out

there. Everyone wants schools to improve but our definition of knowledge sometimes sets data based knowledge against personal knowledge, and anecdotes generally prevail. They do so because they represent a way of looking at things consistent with experience. Research knowledge may be more utilized when it is translated into dramatic, powerful, and convincing story form.

Indeed, the persuasion literature adds that the moral of the school psychologist parables should be added only when his audience might miss it. But it's the stories that persuade.

How powerfully resistant a person's image can be! I was in a store where some peole were discussing their shingles, a painful affliction of he nerve endings. They talked about how it was nervous condition brought on by stress. When I suggested that it was a virus in the nerve endings, and the painful outbreaks could somewhat be controlled by diet and some self-management techniques, they were not only not happy at the news which could relieve some of their pain, they were angry with me for bringing it up. I could only assume that this new knowledge threatened their way of looking at things. The possibility of change for the future may also carry the implication that control could have exerted in the past. Sometimes pain beats blame. The other possibility for the anger is that the outbreaks of pain from the shingles were useful to them in controlling others. In either case, change is not easy to accomplish.

Perhaps an explanation for resistance to change can be found in a combination of notions expounded by John West, a noted Family

Therapist, George Kelly, the personality theorist, and Jean Piaget, the developmentalist.

John West, now at Louisiana State University, proposes a system view of the family wherein even the undesirable behaviors that lead a family to therapy are seen as maintaining what a family wants. It is a way in which all the needs of the family members are served, albiet poorly. Sometimes there is one family member that everyone agrees is the problem. When he/she changes in the sought after direction, the rest of the family inevitably tries to sabotage these new changes. Dynamics are interpersonal, and the system tries to maintain itself.

It's like a blueprint: change one part and the next part must change; that new change requires another part to change until everything is changed. Total change requires the expenditure of much energy. Change is described as stress. Even though in the long run it might be better, it takes too much energy in the short run. So most people don't make changes because it inevitabley leads to more changes. The Life-Events Stress scale lists changes in the physical world. Even positive changes are stressful. The scale fails to note that changes in point of view can be equally stressful.

It's like the story of the administrator who said that he likes to hire peole who want to change the whole system. He knows that once they get sucked into the organizational way of seeing things and start to perform their role within that view, no change will occur. Therefore, the system will continue to operate smoothly with stability. However, beware of the

professional employee who wants to make only one small change. The accumulation of small changes inevitably require major cognitive restructuring given persistence. We all know the stories from the social psychology literature about commitment and behavior change. People who initially commit themselves to do something real small are the ones who are generally more willing to make more, and even larger, commitments later.

George Kelly (1963) described people as construction workers of the mind. People formulate patterns (theories) which to view the world based on their observations of their own interactions. There exists a possibility, however, that since we see by means of theories, that the pattern may never change, even when the patterns no longer aid in prediction. Seligman (1975) showed that lack of predictability leads to anxiety. Defenses are then used to force others to change so that same world view can be maintained, rigid or unchanging. Defenses are interpersonal, and may therefore best be seen as offenses since they are designed to influence others not to interfere with behaviors that clients, from their point of view, see as reasonable and helpful.

Piaget (1970) describes the process of inevitable developmental change in cognition in children. He used notions of assimilation and accomodation. Children construct categories with which to organize their world and assimilate experiences into the existing categories. For example, my daughter, Serena, once viewed the world through the category "put it in your mouth." After a while this primitive category wasn't useful enough for her purposes. Assimilation was no longer practical.

the world would not bend to this tiny construct. The way she viewed the world had to change. She had to accomodate. Now she has two categories: "put it in your mouth and eat it," and "put it in your mouth and don't eat it."

It appears harder, however, for people in the formal stage of operations to change. The inevitability of cognitive shifts decreases. The history of science outlines many examples of adherence to the way it is (theory) despite evidence to the contrary. If it's a question of facts inconsistent with theory, it is usually not the theory that is called into question. Similarly, it is not usually the way we see things (and, therefore, do things) that changes.

However, the therapy literature tells us that change usually doesn't follow an attitude change. Rather, attitude change usually follows a behavior change. Cognitive dissonance predicts that voluntarily made behavior changes affect attitude.

Therefore, the use of research as a tool for creating change in schools can be created by action, specifically small actions. Research projects do not necessarily follow a review of the literature. Questions and problems can come from what we experience on the job. However, we must look for them.

Bill Vosburgh of the School Psychology Program at the Universtiy of Rhode Island gave me some sage advice when I left URI. He suggested that I write down all the things I noticed that seemed "not right" or out of place or counterproductive or a problem. He added that unless I did so, within a month I would be so into the new system that I would cease to be able to

notice. An action literature review can be a story that we have noticed and have attempted to relate to the world-view that allows us to notice.

Methodology

The methodology section usually specifies the subjects, the measuring instruments and the procedures. Typically, this is done for two major purposes: the creation of the conditions for the possibility of replication, and the planned rejection of alternative explanations.

At the confidence level of .05 we suspect that one research article in 20 is incorrect. The problem is that we don't know which one. A single replication would raise the odds to one in 400, and would allow us to build our factual constructs more securely. However, few replications are carried out. This is probably because replication articles are usually not published. Another possibility is that we believe in everything that's published despite the odds.

Another possibility is that we assume that creativity is the sole criterion for research. Those who believe in this point of view probably believe in the necessity of literature reviews.

I remember in one of my MA classes back at St. John's University in N.Y.C. a professor spent the first three hours in the experimental class by describing a person. He began at the cellular level, moved to intercellular communication, to

systems of information transfer within the body, to input sensory systems, association systems and output motor systems. He described the development of a person both physically and socially. At the end of his lecture, which basically was a paeon to complexity and individuality, he concluded in a low dramatic punchline as he was going out the door, "Can you know anything when you research people?"

Clearly, the answer was a qualified "yes", since he took the rest of the semester to show us how. His world view did not allow for much generalization. His qualification implied that since not every variable can be controlled for, replication was less a luxury than a necessity.

Two possibilities exist from replications: it replicates or it doesn't. If our replication results match the original we might be more likely to integrate that result in how we see things. If our result is contrary to the original, we feel the obligation of a forced choice: either we are right or we are wrong. It is a poor man, however, who sees only the offered options. Clearly both results are right. Reality is more complex than our love of generalities would prefer.

This became clearer to me when I was teaching for the University of Maryland-Europe Division. I conducted a daily in-class research project on the topic that would be covered during the next session, as an introduction to the reading. In addition, all these undergraduate-soldiers conducted one research project on a topic raised by the text. Often both my projects and theirs produced results contrary to what was expected. The students

believed that the contrary results showed that their paper was wrong. They explained the contrary results from the professor's in-class research by describing themselves as poor subjects. It took a long while before the message of skepticism and problems in result-generalization could be heard against the background noise of eternal, universal truth which published research seems to generate. Questions are indeed more revealing than answers; the process more valuable than the product. What you look at is meaningless or unacceptable in the absence of developing a way of looking at it.

In addition, what is obvious "fact" to us, who have studied and continue to consume research information, is not necessarily even known to those we serve. We may well be living in "two different literatures". What is established for us is news to others.

A few years ago, the National Enquirer printed many more articles pertaining to personality, behavior and psychology than its present focus on "personalities" does now. One article revealed "new" research which demonstrated that babies only ten weeks old had memories. This knowledge, however, came from research done many years before.

An anecdote, derived from a "live" demonstration research project, is worth 1,000 pictures in dramatic impact, even if it's an old demo to us. Remember: it's not a replication if done with a virgin co-researcher. School psychologist researchers do it replicatedly.

Another useful implication that can be drawn from the "two

different literatures" notion is that psychological information may not me having an impact because it is not presented within the context of ideas that the other school personnel have developed through their training and experience. One way to explore the conext of knowledge of our school colleagues, whom we hope to influence by research knowledge or research projects, is by way of analogies.

There is no way to describe reality except in relation to what we do know. Definitions do not include the experiential, personal orientation that is required for an exploration of "what it's like". Analogies provide us access to the individual's world-view. Generally, I ask people to complete the phrase "A school (a school psychologist, a disturbed child, whatever you are interested in) is like a(n) _____". One or two words do best. With this, we can elicit not descriptions or definitions of reality, but we attempt to imagine the reality as it is viewed by the other. The reponse lets you experience their world-view, what it's like for them. This view can be explored by analogy-relevant questions.

School psychology students generally see school as a "garden" or a "prison". The images reveals different motivations and imply different possibilities or limitations of behavior as well as attitude. Questions about the role of the sun, rain, soil and seeds can elicit notions of the possibility of change. The "sun" can be seen as external (environmental) and the "seed" as internal (heredity). The possibilities for directions for exploration are limited to the questions posed from within the analogy.

The analogy is a language context which allows us to see somethings and not others, and therefore, to do some things and not others. Using the picture developed by exploring the analogy, the school psychologist can be aware of limitations to change. While it is true that we only know the limits when we have passed them, we need not blindly run into blank walls. Before attempting a research/intervention project, the school psychologist might "see a while in my eyes." Neil Postman, a professor of communications at N.Y.U. wrote Crazy Talk, Stupid Talk. This book explores the world language contexts and is recommended to those who would step into other worlds.

I have used an essentially visual analogy in describing how I "see" things in the world of school psychology research. My approach is not oriented to those whose sensory orientation to picking up information is auditory or otherwise, who may have to translate into a mode to which they can relate. For a description of how to change people who relate in a different mode, consult Bandler and Grinder's The Structure of Magic.

The second major traditional purpose of the methodology section is to detail the design such that alternative explorations of the results are reduced hopefully to zero. This means that all alternatives are thought out in advance and eliminated.

However, if the purpose includes both the doing of a research project and thinking it through with your co-researcher (teacher, administrator, etc.) then it is possible to critize the results and provide alternatives afterwards. Sometimes the purpose is to obtain a basis in fact to then explore the cognitive area. In this

way the results are not the end, but the beginning of a change of the way of thinking about problems. It depends on how the data is going to be used.

One exception to this reversal is the use of pre-post designs which are so commonly used in schools and which are for the most part uninterpretable and useless without some control group. Anything between the pre- and the post-observations may be offered as the explanation for a discovered change. In addition, nothing real can be said about comparisons without control groups.

One large county school system wanted to evaluate the effectiveness of their classes for the Behavior Disordered. They proposed a pre-post measure of achievement as the evaluation. With this design possible achievement advances could not be definitely linked to being in the B.D. class. In addition, advances would unfairly but inevitably be compared with advances made by average children in regular classrooms. The only effective comparison would be mainstreamed special education children. Five thousand dollars later, the data were buried as an embarrassment to special education who are now wary of research and evaluation. Sometimes there is no luxury to think about the alternatives afterward. It depends on the purpose.

Results

The purpose of the result section is to present the discovered or created facts of reality. A statistical procedure applied to the raw data usually can answer only with a "yes" or "no" the question of a possible relationships or differences. Results are

just as interesting and meaningful whether the answer is "yes" or "no".

It reminds me of the story about the game where a child tries to determine a selected number. The guesser can only ask "higher" or "lower" questions and the guessee can only respond "yes" or "no" the number is betwen one and one-hundred. The first question the child asks is "Is it higher then 50?" The answer is "no". The disappointed child stops playing even though he received the same amount of helpful information he would have given a "yes" response. The difference between feedback and consequences is in the game you're playing. Szasz, Baade, and Paskewicz (1980) investigated the usefulness of using the Human Figure Drawing (HFD) as a pre-school screening device. The results, given the usual base rates for being ready and not ready for school, showed that the HFD did not add more useful information for that prediction. These negative results put an end to a useless practice which not only wasted school psychologists' time but also unfairly labeled some children for unnecessary follow-up evaluations.

So, negative results may contain useful information depending on the purpose. Results are essentially neutral. What is made of them (conclusions) compels us to action (implications), and changes in looking at things (explanations), and not the facts themselves. That high school girls perform poorly in mathematics compared with boys causes no problem. What is made of this fact, however, does.

A friend of mine at the University Maryland-Europe, a professor who studied ancient civilizations told me the following story.she was challenged by one of her students, a sargent in the army, about

how she could be telling them about ancient peoples who lived long ago in the past. She noted that the question was not so much methodological but rather a sexist put-down and responded: "In the army of knowledge, you are a sargent since you graduated in high school. The three-stripes in my uniform (academic gown) made me a general." Since that ended the conversation, she confirmed the non-methodological orientation of the question.

Knowledge, however, by itself represents nothing. It needs a context, a system in which reality then makes sense. A fact which fits into the system (the expected, the bias) is usually accepted as correct while a fact that does not is generally thought of as an anomaly to be disregarded.

Even professional psychlogists are not immune to this phenomenon. Freedman, Carlsmith, and Sears (1974) in their textbook Social Psychology discuss three ways of reducing dissonance: one, add consonant elements; two, change one of the dissonant elements and three, reduce the importance of one of the dissonant elements. A few pages later, discussing the results of a "post decisional regret" experient, they concluded:

> A somewhat surprising and puzzling result is that after ninety minutes, the two alternatives were back approximately to where they began before the decision. Exactly why this was is not clear; it is certainly not consistent with other findings on post decisional processes. Our best explanation is that this effect was due to some unknown character of this particular decision and situation we are therefore inclined to discount it as a general phenomenon.

They illustrate well their own point: discrepant information is worthy of a put-down. Indeed, in a previous section on persuasion resistance they posit that:

> It often takes more than a good argument to convince people of something. Much of the time they respond in a illogical, nonrational manner to discrepant communications. They merely say, 'no, that's not right.'

If there was no observation snafu or statistical mistake data is always "right." Only our conclusions need to change.

Conlusions

The context for the fact (result) is the way of thinking explored in the conclusion section. Conclusion or discussion sections focus on some of the following areas and questions:

importance - who cares?
implications - so what?
explanations - why in the world.

The conclusion section, however, is generally a process of assimulation or rejection, rather than one of accomodation. If we get the fact we wanted, it is because of a prior expectation based on our theory. The result fits into what is already thought. If the result does not fit in, the usual explanation points to a possible methodological problem calling for more research.

I teach a class in research methods which introduces students from many fields to methodology and statistics. As part of that course, they design a simple two-group comparison study. One area that never fails to be investigated by students is self-concept. Compared repeatedly is the self concept of learning disabled students in a self-contained classroom setting with pupils of the same age who are enrolled in a regular education classroom.

Inevitably, the results show no difference between the two groups on a measure of self concept. Equally inevitable is the rejection of the results by the student-researcher who cannot believe, despite the results of their own study, that learning disabled kids aren't lower in self-concept.

It is only after along strugge to put these results in a context (point of view) in which they can begin to make sense that these expectation - discrepant results can be accepted as real. In this particular case, if we assume that self-concept is a trait with a person, unaffected by interaction with the world and others, then the results must be denied as unthinkable. If, however, we conceptualize self-concept as a comparison a person makes with those around him, then the results makes sense and can be accepted. Those who are doing poorly in school can feel okay about themselves when they compare themselves to others who also are doing poorly in school. They can feel equally okay as regular education children who compare themselves with their peers.

It is in working out the conclusion sections of the results of the research project that the school psychologist can best influence the co-researcher. This assumes that the school psychologist already has a point of view that is more helpful to children than the points of view generally held by other school professionals. A school psychologist is not valuable for the information, knowledge or answers he has collected and is possible of dispensing. The school psychologist is valuable when others can be influenced to see the world in such a way that helpful results make sense and changes of behavior can follow.

Take for example, the problem of reinforcement. Thousands of articles show the usefulness of rewards in increasing desired behaviors and the general fruitlessness of using a punishment approach. Does this fact automatically move us to change our behaviors and employ proven techniques for our purpose (academic and social development). No! School personnel appear no more positive toward children than prior to this onslaught of knowledge and facts.

Many school psychologists set up behavior modification programs for children who were referred by teachers. It is assumed that teachers want to change the behavior of these children.

But our experience is that all the technical information about setting up a positive behavior modification program is not enough. Why not? Let me present two aspects of the problem: The problem of the context and the problem of a broad view of rewards.

A) The Context

A behavior modification project (research and intervention) may not make sense in the point of view of the teacher who is responsible for it. She wants the child to change but the idea of using rewards with a problem child doesn't make sense. I have found three aspects of the structure of the language that we use which keep us from making changes: shoulds, adjectives, and nouns.

"Shoulds". Ellis (1979) described words like "should", "have to", "ought", "must", etc., which in his ABC system, they focus our attention on "A" or the outside events or person. The word "should" implies a discrepancy between "what is" and "what might

be". It also suggests an ambivalence to do anything about it. And ambivalence usually means "no". Remember, "research should inform our actions."

Teachers, just by using the notion and the word "should" are forced into a mode of thinking that says "kids should be doing such-and-such without a reward." Therefore, even though reality points to the fact that they are not doing something that the teacher may expect, the "should" commits them to stand fast, fight reality angrily and make no adjustments. This further forces them into the rigid world of the "shoulds" since a commitment has already been made to them.

Every "should" or its moral equivalent indicates the necessity for intervention since it reduces flexibility in the ability to respond (responsibility). Intervention means the recognition of the "should" and the immediate substitution for it by the responsible word "want" or "do not want". In this word context goals and activities can be easily worked out.

It's helpful to remove the "shoulds" from your our mouth before attempting to remove it from your colleagues. Like cigarette smoking it's a habit that takes constant watching. You're over it, not when you no longer say "should", but when you correct yourself when you do say it.

When I say I should do research, I mean I am not going to but I'll make myself feel guilty about it. The Eagles said it best: "I guess every form of refuge has it's price".

Unfortunately, the association of research with the aversive of guilt reduces flexibility of choice. Better to say "I want to do

research" or "I don't want to do research now". This maintains our control and choices remain in the spotlight of purpose.

"Adjectives". If "shoulds" reduce responsible action, adjectives reduce contact with reality. Analysis of the following sentence illustrates the illusion created by adjectives. "He is lazy." "He" is the person, "is" equates the totality of the person with a trait "lazy." "Lazy" actually refers to the difference in expected behavior and observed behavior. Put in this form, focusing on the person, we attribute a permanent status to him, making change impossible from this point of view. Adjectives lock in a view of the situation, and allow no deviation from this image, unless we're willing to admit we made a mistake about the person. However, the person who was labeled "lazy" is now less like to move so that our concretion of reality actually makes reality more rigid.

In addition, the use of positive adjectives is even more subtle and destructive of flexibility of behavioral options. To say "you are smart" implies an essential intelligence which can be negated by the first stupid mistake. These positive adjectives put pressure on people and make them anxious about losing their one-up status, which, of course, assists them in making a mistake. We create the very thing we fear.

Two reactions generally follow the imposition of positive adjectives: the struggle for control with success, and the loss of control. The outcome depends on whether or not the premise of the reality created by categorizing adjectives is seen as illusory or

real.

When I was teaching first grade in Brooklyn, New York, Jose was a pupil in my class. He could draw very well and one day I was particularly impressed by his ability and told him "he was a good artist". Jose immediately looked up at me and ripped up the picture he was working on and threw it on the floor. Since I was a first year night-time graduate student in a psychoanalytically oriented school psychology program, I went to my desk and said to myself "What did he mean by that"? It didn't take long as the message was clear: no one would impose on him an identity that was packed with pressure never to draw something unacceptable. He was the winner in a fight for control unwittingly set up by the choice of words by his teacher. I could have said "You drew that well", focusing on his behavior which is free to vary. I could have said "I like that drawing", which focuses on my tastes and preferences. All power struggles conceived by adjectives, which set up one-up and one-down categories, end with a winner and a loser. Therefore, someone always loses with adjectives. Jose won because he refused to accept the premise.

The loss of control reaction illustrates just how much a one-up/one-down power struggle it can be. I watched a new teacher being told that she was a "good teacher." The principal announced this conclusion because all the kids in her class were doing what they were supposed to be doing. The teacher felt very good when she received the compliment, but uneasy. The uneasiness was justified as every coin has its other side. The compliment was later seen as a set-up when the principal condemned her for being a

"bad teacher" since some kids were out of their seats at his next visit. Every adjectival concept has its intelligible opposite: buy one and the other comes free. But as we know, free only means that the costs are hidden.

The notions of good-bad in all their adjective one-up/one-down variations is a way of viewing people. It's a view that categorizes and makes a situation static. The one-ups fight to remain one up, but always fear one-downness. The lower half makes the upper half possible and so the conflict is eternal. It actually appears that being one-down gives us a little more freedom, since it is less pressured. J. Joplin said: "Freedom's just another word for nothing left to lose". Within this world view, N=1 research on behavior change will at best go nowhere, at worst be actually resisted.

Current trends suggest that school psychologists are frustrated with the limited and limiting testing role and desire to expand role definitions. Expansion may be being blocked by having our feet locked in by conceptual and behavioral concrete. We might be saying to ourselves "We are good school psychologists." But if we are not doing what we want to be doing can we be "good." "Good" implies that we are expanding by flexibly offering services thorough out and appropriate to meet the problem/need, but it also puts pressure on us to do so. When we can only hear ourselves say "To be good I must broaden my role." We can't hear the problems well enough to focus on them. So "good" carries in it the word "bad" which is unacceptable, since it implies that we, as psychologists, have forgotten how to change behaviors. Both "good"

and "bad" do us harm. Better we paraphrase an analogy - In School Psychology's mansion there are many roles. It is a professional decision about which mode of action (role) to engage in at anytime, and how to set it up and arrange it. "Good" and "bad" divert us from problem solving, of which research/intervention might be a part. As Pat Rooney once said, "If you're getting fat in certain places, just avoid those places."

Like "shoulds" it is important first to recognize the frequency of the use of adjectives by ourselves and others in the school system as a method of control. Then observe its effect as it misdirects our attention from problems to personalities. Therefore, it misdirects us away from the possible use of research as on intervention (limiting our role). Adjectivize not, lest ye be adjectivized.

"Nouns". During in-service presentations I sometimes make use of a great story about nouns first told by McClelland (1973). I divide the group into two halves and note that group one members come early, ask questions, and stay late. I summarize these observations by describing group one as motivated. Conversely, group two members come late, ask no questions and leave early. They are described, as a shorthand for their behaviors, as non-motivated. Then I ask why does the first group come early, ask questions and stay late. The answer is that they have motivation.

What we have done is to circularly reify a short-hand description into an explanation. But motivation, like other abstract nouns, doesn't exist. Such nouns deny the interpersonal

nature of reality by turning interactions into quantities. If I say that "the conditions aren't right for this group to pay attention," that would make sense. If I say that "group two is a quart low in motivation" that wouldn't make sense. But to say that "group one has motivation and group two does not," appears to make sense when it doesn't. We have become used to describers pretending to be explainers, which remove the personal ability to respond and make change appear impossible.

Neil Diamond wrote a song called Brooklyn Roads which describes a scene school psychologists have seen many times:

> Mama come to school,
> And as I sit there softly crying,
> Teacher says he just not trying....

It's an age old problem, as old as our belief in nouns as explanations. Nouns put the reasons for behavior inside a person. Thus, no common intervention, short of one-on-one therapy, can change the child. Nouns refuse to see conditions of interactions.

Another such noun-description wrongfully turned explainer is the word "intelligence." Like motivation, children can work because they have "it," and do not work because they do not have "it," even when we make "it" up. You have it or you don't does not describe reality as much as it admits that the speaker is unwilling to try to change.

Motivation and intelligence are the usual, overused pseudo reasons for the lack of success by children in school and the lack of the possibility that this could be modified. Such nouns force a person to view a situation staticly. These pseudo-explanations are not only harmful, they are common.

Perceptually, we only see the external world. We do not see ourselves as part of the situations we can observe. Teachers don't. Children don't. We attribute reasons for success and failure alternatively as internal or external depending on self-concept. In either case, the world is broken up into two pieces: us and them, instead of a reality conceived as a continuous interaction.

Just as we observe teachers using nouns against children, we also, if not careful, do the same, and attribute a problem situation to the teacher's (principal's, child's, parent's) lack of _____ (fill in your favorite noun-explainer). Having placed the blame, the necessity to respond/intervene/research is absolved.

Again, the recognition of the use of describer nouns as explainers is the first step on the road to reality. Sometimes I feel that it would be helpful if our mouths were labeled: CAUTION: The English Language May Be Injurious To Your Mental Health.

"Verbs and Adverbs". "I am a school psychologist/researcher." Such a pressure packed identify inevitably creates an identify crisis. What is left in our language that might facilitate change? Well, enter the heroes: verbs and adverbs! They describe not people, but behaviors, and we know about control of behaviors. Verbs direct our attention to what's happening between people, to interpersonal, correlational realities. "I work as a school psychologists, and when I play that role, I sometimes do research." This description is more accurate and let's us be free to engage in research when it is helpful to accomplish some goal or purpose.

It also allows us to employ our knowledge of behavior and learning to help us move in that direction.

Fritz Perls probably made a million with his poster and line that "I am not in this world to live up to your expectations. And you are not in this world to live up to mine". Unfortunately, he was incorrect because he didn't push his thinking about language far enough. Pressure in the form of the language of expectations is something that you are not required to accept. It might be more accurate to say "I am not in this world to live up to my own expectations". I hope I make a million.

So it appears that analysis of the language (specfically pressure words - shoulds, adjectives and nouns) that we and others use is one key to discover the world-view within which research/interventions will live or die.

It is the usual sequence of success that first we change our language, then help others to do the same, then work the possibilities that language changes allow in terms of intervention/research. Making changes in what we see is easy if we are willing to change first. Watch your language around a psychologist!

b) The Reward System

Whether someone is willing to change as a part of an intervention/research project also depends on the immediacy of rewards. The school psychologist who does intervention research is like the Maytag repairman -- the loneliest man in town. Using the realistic notion that a compliment (directed toward behavior

the realistic notion that a compliment (directed toward behavior and not the person) is best received when it is told to the boss and overheard later, the school psychologist rewards teacher change (in a research project) by talking (writing) his/her positive behaviors up with the principal or supervisor. That person conveys the message to the teacher and is rewarded in turn by the school psychologist complimenting him to his boss. The only unsupported link in this positive chain is the school psychologist him/her self. Mary Berk, a school psychologist, told me of a Joel Myers' story about the "Lone Ranger" phenomenon of consultation. "Who was that masked school psychologist? I wanted to thank him. Oh, well!" Only your peers can pat you on the back. You would probably also only believe your peers.

It is generally not enough to preach behavior change principles. Conceptualizing the whole system in this way and living it is also necessary.

The best teachers are sometimes complimented by being asked to deal with the more "challenging" children, unmanageable by others. The system punishes its best teachers, and does not balance the consequences even with support services. The whole system doesn't make sense from this point of view.

Therefore, conclusion sections help us to see from the perspective of usefulness for our purpose, implying a theory. I conclude this section by noting that however we do whatever research we do, our main job is to place the result in the mind set of our audience, or they will not see it. Sometimes the result fits in and changes made from the research project can be exploited

for the benefit of the children, our main focus. Sometimes the results are foreign and must be made to make sense with a minimum of cognitive restructuring, which points to further behavioral and conceptual changes. This is so that rejection of our transplanted notions can be avoided.

Suggestions for Initiating the Research Role.

Starting what may be a new role is never easy. However, here are a few suggestions that I and others have had experience with that may help in the beginning as you find your own way.

Develop support

1) Establish a strong support group among the school psychologists with whom you work. Set up the group so that it will provide feedback and assistance to you in your projects. About halfway through every research project, I wonder why I ever began it. Interested others can help remind you of the goals.
2) Establish outlets for your work. For example, the West Virginia School Psychologists Association (WVSPA) publishes its own journal, School Psychology, for work written up by members and subscribers. WVSPA also schedules its members to make presentations at the conventions. The editor and the convention committee chair are always looking for material, and can be most encouraging. If your state does not have these vehicles for research, develop them thru the association.
3) Establish a formal connection between the state association and a college school psychology progr[illegible]. For example,

WVSPA and the West Virginia College of Graduate Studies (COGS) has a formal Research Assistance Program. This program has published and distributed monographs on statistics for school psychologists. More importantly, however, interested college faculty are ready to consult on methodology and statistical techniques. Help in doing a project is not further than a phone call away. If your state association provides no such service, organize it.

4) Interventions that may be researched sometimes require consultation help on the particular problem. For example, you might have a school phobic child to work with and you would like to conduct an N=1 study, but you have never worked with a school phobic before. WVSPA publishes a Phone Consultation Service booklet which lists all the problem areas that you might need consulting help with and gives the names of all the school psychologists in the state who know the area and have agreed to consult about it. This is a very helpful way of thinking through an interention/research project. Again, organize it if your state does not have it.

INCENTIVES

5) Many school psychologists renew their certification or increase salary levels by college course work. Many school psychology programs have independent research courses, offering varying amounts of credit. Consider taking such a course instead of the classroom-lecture type.

6) School psychologists who work as faculty members in colleges and universities in school psychology programs want to do research and to publish. They also generally want to spend more time both in libraries and in field related activities. Capitalize on their interests by offering joint authorship on a research project in exchange for collaboration on the literature review (especially since library services are easily available and accessible) and the rest of the article.

7) Many teachers also need to renew their certificates by completing more college credits hours. A research paper done by a teacher on a problem in his/her class may double the benefits for participating as a co-researcher on a research project. The research project, by itself, might earn independent research credit for the teacher. Suggest whatever is appropriate.

BEGINNING

8) One good place to begin is on exploration of data already collected. Basic data, often overlooked since we are closest to them, are the referrals. When I was working in Massachusetts, the school psychologists at the end of the year organized the referrals by school, by grade level, by by reason for referral and hit rate. These data yielded an interesting picture of the school system and where the pattern of problems were. A presentation provided us with many suggestions for research projects offered by teachers and administrators.

9) Begin with the case data you have already collected. The answers have always been there waiting for the questions. For example, many systems use unique combinations of evaluation instruments for screening programs. Predictions are made on the basis of these results about who is ready and not-ready for school. Some school psychologists are exploring the usefulness of their systems screening program with sometimes fascinating results. What it took in one case was simply the organization of data in files so that professor with access to a computer could do a multiple regression prediction equation. Next year's screening will not be the same.

10) Organize your intervention/research service. One school psychologist expanded her testing role into offering interventions because she observed the systems reverence for forms. So she developed a "Request for Consultation" form and a "Follow-up from Consultation" form. She distributed these to the principals in the schools. Just before she left the state, she was spending most of her time responding to administrators requests for interventions.

11) Begin with problems that people have responsibility for and want something to be done. N=1 research can sometimes be confused with a covert referral with the aim of child-removal, unless it is explicit and clear that whoever owns the problem continues to own it. The expectation that if

intervention fails, placement follows can subvert intervention/research projects.

12) Choose a problem that involves groups, a class or a larger group, like a lunchroom crowd. Wherever people are yelling to get control seems to be a good place to start, and noise seems to be a persuasive problem.

13) Beginning teachers seem to accept assistance more readily than more experienced personnel. They also need more support because of the pressure they typically put on themselves to be a "Good" teacher. Teaching an on-the-job data collection problem solving approach may help calm down a sometimes desperate first year as well as build up a positive image of psychological services.

14) Special education teachers often see themselves as interventionists who are there to make a difference. They also have all the "problem" children. They are usually the loneliest of teachers since regular education teachers are wary of becoming too friendly with those who have children to mainstream, especially the Behavior Disordered. They also have a high turnover (burn-out?) rate. It may relate to the usual condition that the more skilled they are, the worse problems they receive, usually without support. They also have the children we are most interested in.

15) A recent study revealed that memory for information contained in research articles was better for those who read only the abstract and not the entire article.

Therefore, when you publicize the project in the local school district newsletter, mention the co-researchers and give only the abstract. It will have more impact that way. Indeed, if the abstract were written in anecdotal form, it probably would have the most impact. Getting your work out is important. You are probably too close to it to appreciate it. Paskewicz's Law states that the findings in a research project can have impact, except on you, since you did it.

RESEARCH AS PROBLEM SOLVING/INTERVENTION

Research can be used as a problem-solving intervention. We cannot, however, direct your attention to the problems to be solved. We can focus on some interesting research projects in which we have had a part. This will be divided into three sections: program evaluation studies, N=1 projects and descriptive and predictive projects.

Program evaluation can be thought of as research projects on unique situations. Whether the results can be generalized is not an issue in this type of research. Evaluations are made for the purpose of guiding a specific project towards its goals through data feedback.

N=1 studies are research-interventions designed to investigate the relationship between changes made toward one person and the changes those changes create. N=1 is really a misleading, albeit commonly recognizable, title, since in reality we are describing a series of mutually involving environmental and behavioral differences.

Descriptive and predictive projects are examples of research designed to make a difference by exploring problems as relationships. The more detailed the picture, then the more specific the problem, then the clearer the response.

PROGRAM EVALUATION

Program evaluation is best when used to inform the decision making process in a school system. Different types of decisions call for different information and therefore different procedures and instrumentation. "Planning decisions" are most likely involved when a new program of psychological services is introduced to a system. In trying to determine better ways to accomplish the established goals, "structuring decisions", will be made. The periodic review of procedures and activites involves "implementing decisions". Decisions about program continuation are "re-cycling decisions". The decision typology developed by Guba and Stufflebeam (1970) contains four decision types: planning, structuring, implementing, and recycling.

As useful as program evaluation may be to the planning and delivery of psychological services there are more practical uses for program evaluation. Program evaluation can be used to change behavior. If you don't like what is happening in your psychological services unit consider using program evaluation as an aid in bringing about the changes which you would like to see.

I will share some of my experiences in changing psychological services through program evaluation. The stories take place in eight school districts scattered in four different states. They occured over my sixteen years experience as a school psychologist, supervisor, and university trainer. Some of the people I write about might tell a different story about why things changed, since I use a good dose of artistic license

in trying to make my point. However, change did occur in each of these "real life" experiences and, in most cases the change was in the direction that the evaluator chose.

CREATING A JOB FOR THE UNEMPLOYED (A Planning Decision)

My story begins with a personal need, the need for gainful employment. In the early days of compensatory education programs there was an abundance of grant monies for new programs and many innovative educational efforts were undertaken. Obviously the professionals who were organizing these new programs had a vested interest in depicting the success of the intervention. At the opportune moment I entered the scene with a plan in hand and a proposal to do "third party" evaluation.

Since the staff who implemented a program and the planners who drafted the plan were obviously biased the superintendent needed someone to collect information and summarize the results so that the effectiveness of the program could be fairly judged. Since I was an unbiased observer (and cheap because I was unemployed) I was given a contract to do a thorough "program evaluation" of the innovative compensatory education programs of a rural Ohio school system. The fact that my bias was considerably altered as soon as I was hired (I liked getting paid) seem to escape concern. Everyone appeared to be comfortable that my "third party" program evaluation would be above reproach. Therefore, program evaluation was useful in accomplishing my first goal for system change. That is, program evaluation was useful in adjusting my income above the poverty

line.

GIVING A PRINCIPAL A LITTLE CLASS (A Structuring Decision)

Several years later I found myself in Nashville with another acute use for my tools of program evaluation. It was the time of court ordered desegregation plans. Handicapping conditions were almost as prejudicial as race in some of the schools. I realized the intensity of the fears and bias when a principal said to me "I may have to have them in my school, but I certainly wouldn't touch them". I had made the mistake of asking her to help with the clown make-up at the PTA carnival. After assuring her that neither condition was contagious (race or handicap) I began my plan to change the system.

I worked in a "special" school which was in the same neighborhood as my target principal's elementary school. In the name of good program evaluation I began to do case follow-up on all the children who were placed in the "special" school. There was a clear pattern that children from the target school were more likely to be placed in the "special" school than children from other schools. That was no real surprise. Some might even think that the principal wanted "those" children out of her school. The surprise came when the planners decided (based on that "facts" of program evaluation) that classes for handicapped children should, whenever possible, be distributed to regular schools so that the services were more likely to be received by those who needed them. My goal was accomplished when the target principal resigned rather than face the coming change. The moral

of this story is that program evaluation data may be creatively used to bring about desired change more rapidly than unsubstantiated persuasion.

TEACHING OLD DOGS NEW TRICKS (An Implementing Decision)

Serving as a staff development consultant in a city school district of Rhode Island, I again relied on program evaluation as an agent of change. At an in-service meeting where I was introducing the changes in the 1974 revision of the WISC I discovered a staff member who was still using the Binet, Form-L (1937) as his sole instrument for evaluation. As a consultant I clearly lacked the authority to remedy the problem administratively, and I didn't have the financial resources for a termination contract. However, I did have my program evaluator's unbiased opinion.

I immediately designed an evaluation instrument which would aid me in determining the effectiveness of my staff development workshop series. The administrator in charge gave me ready access to the records since the most damage that I could do would be to demonstate my own ineffectiveness as a staff developer. Even this outcome wasn't all bad from the administrator's perspective since it would provide a rationale for not renewing my rather bothersome consulting contract. Armed with the data I charged on constructing a large matrix with a wide variety of tests along one axis and all the staff members' names along the other. At each intersection I recorded the number of times each staff member used each instrument in the preceding month. This was perfectly logical as process evaluation since the staff

development workshop introduced new instruments each month. I neglected to list Form-L of the Binet anywhere on the matrix. I generously agreed to share the results of my data collection with the staff by posting the matrix in the office--right over the coffee pot.

After two months of zeros next to his name my target staff member began to try other instruments. By the end of the year he had developed a respectable battery of instruments and abandoned the Form-L. This change occurred without administrative intervention or any coercion except the subtle persuasion of "fact" and "truth". The morale of this story is that purposes may not be just what they appear to be -- consider the "hidden agenda" as a use for program evaluation.

GETTING YOUR FAIR SHARE (An Implementing Decision)

In this story the new supervisor of psychological services joined the county staff with less seniority and fewer years of practice then the current staff. Through "rite of survivorship" two of the staff had acquired the choice schools and the lightest workload. Precedence and prior practice argued against change. By this time I had gained an undeserved reputation in systems change through manipulation, so I was called for advice and strategy. Not having the experience to ignore my advice, the new superviser adopted what had become a standard tool in my program evaluation repertoire, the "Index of Effort". Designed as an alternative to counting "completed referrals" as the only measure of productivity, this instrument counted everything a

school psychologist might do from case conferences to coffee breaks. My tool was refined and given further face validity when my consultee developed a computer program to summarize the results. Faced with the "data" on effort the surviving staff voluntarily participated in the reassignment of schools. The chances that the new kid on he block would get the leftovers was significantly reduced.

GETTING MORE HELP! (A Re-cycling Decision)

Toward the end of each school year the entire system begans to make re-cycling decisions, everything from "Shall we keep this curriculum?" to "Shall we have this new program?" Goals and plans are re-examined and the resource allocation reviewed. Where are the psychologists when this is happening? Usually too far under the backlog and too much caught up in the last minute rush to get this "one emergency evaluation" completed to be much involved and concerned about plans for the coming year. In order to be ready for the re-cycling decisions we have to anticipate their timing.

One of the rural West Virginia counties with which I consulted was experiencing the year end administrative pressure to "get rid of the backlog", but responded in a productive way. They were able to do this because of a fortuitous "accident" that resulted in their having substantial "data" available which indicated that the services being provided were appropriate and of good quality. The problem was perceived as an issue of quantity. That meant they didn't need to change what the psychologists were doing, but they did need to get more

psychologists. How did they manange to do this? Quite unrelated to any notion about how the information would be used, the staff began soliciting feedback from the clients who they served; teachers, parents, children, administrators. They took this action as part of their program evaluation effort.

Consumer questionaire's are an obvious way of gathering data on how the services are perceived by the groups who use those services. Not that these perceptions are the only "true" picture of reality, but that these perceptions provide one viewpoint which influences behavior. Staff members expressed a lot of apprehension about being evaluated by teachers and principals. Obviously they are biased and perhaps don't even know what good psychological services should be like. However, they went along with the process when the agreement was made that the results would not be shared with anyone without their consent.

When the results came in they were not nearly as critical as staff had feared. Oh, there were some bitter complaints, but most of the consumers reported that they were satisfied with the type and quality of the service. They just needed more service. Some even said that more psychologists should be hired. This data just happened to be coming across the superintenent's desk when the re-cycling decisions were being made. He wanted to get rid of the backlog problem, the psychologists said they couldn't run any faster, but the consumer questionaire data gave the solution--hire another psychologist. In a year where money was tight and no one

anticpated staff additions a new position was allocated, partly because of program evaluation.

WHAT NEW PROGRAMS AND WHERE DO WE PUT THEM? (Planning decision)

So often in education the decision to add new programs is made before the consideration is given to the relative need for different kinds of programs. This was clearly the case with the influx of federal aid to education in the 60's and appeared to be the case with the build-up of special education services in the 70's. I am convinved that the only remedy to this crisis management style and political decision-making model is the development of an on-going needs assessment program. Educational decisions will still be subject to the political whim, but the details of what program and where could be influenced by the accumulated information on the need and demand for new programs.

In Rhode Island we began a process for establishing this kind of data resource by developing a case coding system where diagnostic information was translated into a standardized machine readable format. The current availability of microcomputers make this activity all the more feasible. In this case coding process the placement team makes the decisions about diagnosis and placement and then encodes all of the identifying data as well as the diagnostic and treatment information into a series of alpha-numeric entries. Coded cases then can be sorted to identify children with similar problems and treatment programs.

A case code was in place in Rhode Island at the time that the counties began to build up special services. Prior to deciding the location and type of class to be opened the data bank could be sorted to determine needs. Even school bus routing was maximized since the case data included home address. In some instances a program already in place in an adjacent county was identified as a cost-efficient alternative to starting a new class. Children who lived near the school district boundary benefited from these contractual exchanges between school districts since they were frequently closer to the special service class in an adjacent county than to a similar class in their own county. Low incidence programs were more effective by combining children with similar disabilities from several school districts. If case data had been stored in the typical file cabinet and not been readily accessible, the planning decisions would have been informed only by political and economic considerations.

CURIOUS QUESTIONS AND READY ANSWERS (Re-cycling and Planning)

How often do you find yourself posing interesting research questions that would make a great study, if you only had the time to do the research? In my experience the questions are the easy part, finding the time to collect the data is the rub. The availability of coded case data, staff activity information, consumer perceptions, case follow-up information will greatly enhance your ability to answer those interesting questions. One psychologist in West Virginia became intrigued by the apparent relationship between the location of a special service and the

probability that a student would be referred for that service. The subsequent study that was conducted was a massive effort of data collection that should have been worth two doctorates. How much simpler getting the answer would be if all referred cases were coded. In a quick computer sort the coded data could be reviewed to identify the home school of each referred child, indicate whether that school had the service for which the child was referred, and could be used to compared with the probability of referral with the availability of the service. The question could be answered completely from archival data--if the data were accessible. Stored in a file cabinet, case data is useful only to that particular case.

Or take another question which some of our school districts are pursuing. What's the relationship between attending kindergarten (or Head Start, or day care) and subsequent referral for special services? These questions may be answered by any easy correlation--if the case data is accessible.

GETTING STARTED ON PROGRAM EVALUATION (This is planning, also)

There are lots of excuses available if you don't want to do program evaluation. As I listen to all the good reasons for not starting today I am aware of my psychodynamic framework. I tend to see the world through a Freudian perspective--particularly when excuse-making is involved. The excuse-makers are plodding slowly but steadily uphill through the pre-determined developmental stages. They began in their infancy to be barely aware of the possibilities, bloom in their adolescence, and

began to fade in maturity-just as the program evaluation system is in place. Therefore, the process of getting there has got to be as important, or more so, than the product. Otherwise it would only make sense for me to give you my somewhat faded program evaluation plan as a finished product for immediate introjection. Alas, this matter is not so simple. Everyone must make their own journey. So that you will recognize your own progress. I will share with you some of the developmental milestones.

STAGE	THEME	OVERT (COVERT) MESSAGE
oral	incorporation	Evaluation facinates me-tell me more. (As long as you keep feeding me I won't have to do a thing.)
anal	retentive	I don't want those teachers to evaluate me! (I'll keep hold of my own mess.)
	expulsive	If we have to have evaluation, my boss should do it. (I made the mess, you clean it up!)
phallic	exhibition	We have a fine program and I'll show you. (See how high on the wall I can do it!)
	manipulation	How about you evaluate me and I'll evaluate you. (Let's show and tell.)
genital	social	Let's get together and see what kind of a system we can design. (You put yours in mine and we'll see what develops.)
young adult	joining up	Well here's the system, let's give it a try. (Man have I got my stuff

adult		it a try. (Man have I got my stuff together!)
mid-life crisis	re-thinking	But maybe we don't have valid (reliable?) instruments. (They're really going to use this stuff to make decisions.)
maturity	settling down	Maybe data-based decisions are better than power-based decisions--even it I don't like the outcome. (It's the best we've got, we might as well use it.)

But after the excuse-making where do I began? The answer to this question will undoubtedly be influenced in part by the needs of your school system. In the absence of any constraints the preferred place to began is probably with the level of effort. This is advisable since effort data is readily available and less threatening to collect than performance data. Once that stage is mastered you may be ready to assess the quality of performance through questionaires. Next in terms of difficulty and threat is effectiveness data assessed through outcome measures. Then you may be ready for adequacy measures which relate the outcomes to the demand and needs. Finally, you may be able to address efficiency, or the relationship of input to output. This is the cost-effectiveness ratio which is so popular in our budget-minded society. If we are going to be ready to address cost-effectiveness when we are asked, we had better get started on the design and collection of input information. We have a long way to go before we will have the data base to truely deal with the questions of cost effectiveness.

N=1 STUDIES

Case 1

There are times when you are asked to intervene when you would like to be somewhere else. One such situation occurred to me when I was working in the Austin, Texas schools. I was visiting an elementary school to which I had been assigned. The principal, as sometimes happens, wanted me to intervene in a classroom where the teacher was having some classroom management difficulties. She was a first year teacher, assigned to a new kindergarten class that had been added just before the start of the Fall school year. Besides getting her class assignment late in the summer, this teacher inherited all of the "problem" students that had been selected out of the other two kindergarten classrooms. This created quite a few problems for the new teacher. Among these problems was the disruptions that seemed to occur during the free play periods of the day. These disruptions sometimes led to fights between some of the students. When these fights would break out the teacher was unable to regain order in the classroom. This is where I came in.

After interviewing the new teacher, it became clear that she did not feel at all "in control". She had heard from a confidant in the school staff that she had been given all of the "bad apples". This information made the teacher feel like she was being set up to fail. This disturbed her but she felt powerless to change her situation and thus the classroom management or lack thereof. Since she hadn't come to me but rather I had been sent to

her, I did not want to become part of the problem as well. Therefore, "power" in the classroom and, "just maybe," among others in the staff.

After observing in the classroom it was clear to me that there were a number of environmental things that could be changed that just might minimize the occasions for the disruptions. Again, however, i wanted the teacher to "discover" these situations for herself. I devised a diagram of the classroom as it was presently laid out. In conjunction with the teacher, it was decided to simply record the number of disruptive incidents that occurred in each location. This "place" recording was selected to try to shift focus of the disruption from within the child(ren), to an interactive event between the child and situations/persons in the environment. Happily, this appealed to the new teacher too because she was afraid she would look only at those children with whom she did not "get along".

As you probably have guessed, this strategy proved successful in several ways. First, it was found that during the free play periods, the children congregated around the manipulative materials. This space was severely restricted due to the way the equipment had been placed in the classroom. So the first intervention was to rearrange the desks and tables to increase the play space.

Then, quite on her own the teacher noticed that several children were the instigators of the disruptions. In fact, she narrowed it to just two students. At my suggestion, she shifted the free play periods for these two to minimize the negative

interactions. Finally, the teacher reported that she had been complimented by the principal and a teacher who has the room across the hall for the decrease in noise level coming from her room.

By training the teacher to look not only at the children but the conditions under which the teacher had control helped her gain some control over the classroom, her self-esteem, and the opinions of her peers. In order to do this it was necessary to use good observational skills, certainly, but also it was necessary to "give these skills away" to the teacher. Like the teacher, we have the responsibility to convey to those with whom we work our skills and knowledge so they can become independent.

Case 2

Telling parents that their children are functioning in the lower end of the ability range is very difficult for me to do. The problem is compounded when the child exhibits behaviors which make him/her less attractive or easy to manage. Just such a case presented itself to me and one of my interns.

After the assessments were completed and the evidence about cognitive ability was verified, it fell to the intern to tell the parents that they should send their son to a school which was more suited to his individual needs. The shock of the testing evidence was bad enough, but the necessity of sending their son to anyplace other than the home school was more than they could tolerate. Because of the parents strong objections to alternative learning center, the principal said he could come to the regular kindergarten class. Easier said than done! The little fellow,

having never been to any school at all, and living in a very rural area had never seen a school bus. There was no way the driver and bus aide could coax him onto that bus. The parents felt this was a result of fear of going to that school where he would not be with his friends. Whether this was the reason or not, it was necessary to have the boy board the bus.

It was decided that the intern, since he had conducted the testing, should intervene to try to get the boy to board the bus. Employing a widely used technique for dealing with phobic children, the intern was able to get the child to not only board the bus, but after only one week, walk to and from the bus stop without his mother. From this point it was an easier step to get the parents to agree to the alternative learning center, since the same bus would transport their son to that center. From fear of the evidence regarding their son's ability the parents were able to accept the "maturity" they saw in their son. As it turned out, the boy was able, after that first year in the alternative learning center, to return to his home school in the regular classroom.

Case 3

I received a call at one of the Regional Education Service Agencies (RESA) in West Virginia concerning a county's request for help with a school phobic second grader. After the meeting with the family revealed a classic case of separation anxiety with a critical event eliciting the phobic reaction, it was decided that the child would continue to come to school and that he would remain

there until his fear of being away from his mother was extinguished. Based on the notion that the child attempts to convince school personnel to let him go home, it was decided to try on experiment in the use of multiple therapists. This would give the boy a more generalized experience with an extinction procedure. Every morning a different school psychologist received the child at the door and remained with him, doing nothing, trying to resist the child's psychological and physical manipulations, until the child was ready to go back into the classroom. Each psychologist was given a complete description of the situation and the tactics used by the boy the previous day. All responded the same way. After three days of trials, Monday through Thursday, he went "willingly to school" on Thursday. The three psychologists were very pleased with the quickness of the anxiety reduction until the mother called the following week. She thanked us for our efforts, both at the school and in working with her, but that the reason the boy went back to school on Thursday was because of a prayer meeting for him in church on Wednesday night. We found that multiple therapists used for the purpose of anxiety reduction thru generalized extinction had another purpose: to pat ourselves on the back when no one else would. This work was presented at one of the NASP annual conventions.

Case 4

A reading teacher referred a boy who would hide under his desk during class. Conversation revealed that the teacher she was angry at him for making her look bad. The student was afraid of making

mistakes, and so he focused on blaming the teacher for making him afraid. I had just read an article on using the child as your client in changing the behavior of the teacher, and I wanted to try an experiment. I set it up with the teacher such that if the student would approximate some work in class, then she would reward him. I set it up with the pupil such that he would try an experiment in changing her angry behavior. He would do some work at his desk the following day and hand it in to the teacher, but then immediately record the teacher's reaction. We had set up a card so he could mark her response from a variety of columns of a possible teacher reactions.

The following day, he did his work and the teacher did a nice job rewarding him. I congratulated her on a fine job changing his behavior. I congratulated him on a fine job of changing her behavior. He began to lose his fear of mistakes since she only focused on what he did right. They became close friends. I never wrote this project up before this lest either of them read it and be angry at me for playing both sides against a positive middle.

DESCRIPTIVE PROJECTS

Example 1

You will find in the next section a discussion of why it is that research seems to influence practice so infrequently. As Tyler (1978) indicates in his article, it sometimes takes twenty-five years for research to influence practice. It takes educators that much time to integrate the findings into their day to day practice. The following is an example of how that process was accelerated.

In the late sixties, due in part to the Great Society programs of the Johnson administration, the Head Start program was inaugurated to help low-income, disadvantaged children compete more successfully with their more advantaged counterparts. The Head Start programs were aimed at the four-year olds. The interventions and treatments were exclusively directed at this group. The following is an example of how theoretical, or basic findings influenced day to day practice.

In a Head Start intervention program in Cheyenne, Wyoming, students from a Child Psychology course at the local Junior College were required to work for several hours a seek in the Head Start center. The children in the center came from low-income levels in the community. The students in the psychology class were eager to make an impression on their on-site supervisors. They wanted to have an impact not only on the maintenance of the day to day activities, but also on the

direction and the scope of the functioning of the center. The psychology students had read the Burton White at Harvard had found that intervention programs should be directed at two year olds, not four year olds. The Harvard research found that intervening at four was perhaps too late for some disadvantage youth. They brought their ideas up with the Psychology Instructor who encouraged them to discuss the project with the center director.

Since this is a succes story you can probably guess the reaction of the center director. She permitted the students to try a pilot program with the two year old siblings of the students already in the program. The results were dramatic. The two year olds were in some instances able to do, just at the Harvard work had indicated, as much or more cognitive activities as their older siblings. The only areas in which the younger children were not as capable were in some of the fine and gross motor activities. As a result of the initiative of the students and the foresight of the director, the Head Start center was able to obtain monies to enable them to start to admit children younger than four.

Example 2

Research into the effects of television viewing on the behavoir of young children has been underway for some time. The search for the villan in the box continues today. Depending on whom you talk with, television is benign to monstrous in its effects on the behavior of children. Some findings, however,

have been substantiated with regularity. One of these findings is the effect viewing violence has on the behavior of young children. As very often happens, immediately after viewing violent action in a television scene, if given the opportunity, children will act out the violent act. The effect diminishes as time passes and this behavior seems to be difused after several hours.

It just so happens that in many classrooms television is used to "babysit" children while teachers are waiting for all of the students to arrive. In one such classroom, a school pyschology intern was called on to intervene. The stated reason for the referral: excessive violence in the classroom prior to teh start of the regular day. It seems that some of the children, mostly boys, were prone to hit, push, pinch, etc., their neighbors while watching television. This confusion did not stop with the start of the school activities. The teacher had to take valuable time to stop the disruptions.

After observing the disruptions and the conditions surrounding the incidents, it became clear to the intern that the television viewing and influencing, to some degree the disrupitveness of the class. The intern pointed this hunch out to the teacher. The relevant research and findings were pointed out as well. She was receptive to the argument, but felt helpless to change the TV viewing because she had no aide and needed the time before school to prepare. The intern suggested movies and slide-tape viewing as an alternative. The teacher agreed to give it a try for several days. Low and behold the

levels of disruptions were decreased. The teacher recommended to the principal, that since there were so many children who came to school early and that the disruptions after the cartoon viewing were by no means her classroom alone, that movies be shown in the cafeteria prior to the start of school. The enterprising principal even offered refreshments at a modest cost which funded the rental of films and the salary of a parent projectionist. It is predictable to note that teachers still relied on television cartoon viewing to manage the students at other times in the day. But, at least in the morning, the action taken as a result of knowledge of research had a beneficial impact.

Example 3

I was working in New York City for a district Diagnostic and Remedial Learning Lab. All pupils who were referred were administered the Illinois Test of Psycholinguistic Abilities. At the end of the year, all the ITPA scores were examined by grade level to investigate the language patterns and problems over the district and over time. The pattern revealed that first and second grade children were significantly below the norm and their other subtest scores in two areas: auditory reception and verbal expression. This finding lead to recommendatons for changes in the kindergarten curriculum to include or expand talking and listening skills. The data came from those who had problems, but then we were those entrusted with the responsibility to solve problems, perhaps even prevent

them. A project which flowed from this was the investigation of the various attempts to influence the kindergarten curriculum toward the recommended changes. They next investigated whether increases in verbal language skills resulted from this increase in training.

Example 4

The data from the Massachusetts study of referral patterns mentioned in the previous section (suggestion #8) revealed, not unexpectedly, that the first grade teachers referred the most children. Fewer children were referred in the second grade, and almost none at the third grade level. These referrals were mainly for general learning (retardation) problems. However, referrals for behavior problems picked up in the fourth grade and increased in the fifth grade. This finding led to recommendations about offering required inservices on a grade level basis focusing on the types of problems that were occurring at the various grade levels. This project helped specify existing problem patterns so that interventions could be made to relieve some situations that in the past had to wait until they became emergencies and crises to be noticed. Sometimes epidemological research can help solve epidemic, or at least chronic, problems.

RESEARCH IN SCHOOL PSYCHOLOGY

Charlie said, in the previous sections, that research does not change behavior in people unless "a more helpful perspective can be used to see the possibility of change." However, Charlie's comments to the contrary, there is ample evidence that research has influenced our behavior. You will hear of those instances of research and its influence on behavior in a later section of this appendix. My task is a different one than that of Charlie. It is my task to show you what research has told us, in telling us, and, I strongly believe, will inform us about the future.

Before we can look into the future, it is important that we know about our past. Prior to that discussion it is important first, in the context of this research review section, to define research. Then, it is important to look at the qualities of the researcher and how those can be fostered in school psychology practice. After that, it is important to look at the place of research in psychology and research in school psychology practice. This final section will include some suggestions for the applied aspects of school psychology research.

RESEARCH - "How It Has Changed Behavior"

As I mentioned in the previous section, research and its results have changed our ways of looking at things and the ways we work as professionals. Jacob W. Getzels (1978) in a chapter

titled "Theoretical research and school change" offers many examples of instances when research, and in many cases, theoretical research, has had a profound effect on educational practice. One such example with which all school psychologists can identify comes from our conceptions of the learner. Getzels explains the development of our present conceptualizations of the learner over time. In the early part of the twentieth century, the learner was seen as a passive, empty organism who learned primarily by trial and error (p. 33). In this sort of model, what the student learned was primarily the responsibility of the teacher. As a result of this conception, the way classrooms were organized was predominantly teacher-centered. As you well know, today we view children and, therefore, the organization and operation of the classroom very differently. How, as Getzels asks, did we get from the then to now? The answer or, more correctly, the answers, as you surely have guessed, have come from systematic research of a number of learning, educational, and developmental psychologists, most notable of whom is Jean Piaget. What research has made us realize is that the "central fact of growth and development lies not in the reduction of drives but in the spontaneous interaction with the environment (Getzels, 1978, p. 36)." The point to be drawn is that "theoretical research and paradigms do not only have an impact on practice, but they enter into the preparation of the practitioners-whether the practitioners realize it or not (Getzels, 1978, p. 38)." Thus, it can be seen that research and not just applied research has, over time, a

profound impact on educational practice and the preparation of educational professionals.

I suppose that you are wondering in what direction this familiar sermon is taking. I do not plan to keep you waiting long. I am sure you are saying either out loud or to yourself (or both) that you have heard it all before and that therefore, you tire quickly of efforts to change your conceptions of research's lack of relevance to your practice. Tyler (1978), writing in the same book as Getzel provides the most understandable and, I believe, relevant reasons for the lack of recognition of research's contributions to every day practice and the professionals' academic preparation. One reason Tyler found was that over eighty (80%) per cent of research findings that directly impact educational practice were published twenty-five (25) or more years before. It seems that the research-analyze-write-publish-dissemination process takes quite a long time to filter down to the application level. This problem of "knowledge transfer" is one that we will come back to in a later section. There are two other reasons that Tyler offers to explain why research has such a "bad name" with educational practitioners. The first is that "few researchers have worked directly with large numbers of practitioners (Tyler, 1978, p. 101)." This is a common criticism and one that seems quite legitimate when the model for research is from the research center (University, R & D center, etc.) down to the practitioner. This is unfortunate because "the professional practice of teaching, as well as that of law, medicine, and

theology, is largely a product of the experience of practitioners, particularly those who are more creative, inventive, and observant than the average" (Tyler, 1978, p. 95)." Perhaps herein lies the major source for the criticism of research as biased away from the practice level, that is that researchers do not have the practitioner's perspective on the application of research findings. Tyler (1978, p. 98) provides "five common criticisms by teachers of new products or systems:

1 - It takes a good deal of practice before you can make it work.
2 - It is hard to manage.
3 - Most of my students do about as well without using it.
4 - It is too mechanical and takes the challenge out of teaching.
5 - It is too expensive.

What this means for researchers and developers is that they must give more attention to the problems practitioners face in having to use something new.

The second reason that Tyler (1978) offered for the practitioners rejection of research results is related to the first but, unlike the first, it has to do with the actual use and adaption of research results in educational practice. It seems, that, "When new knowledge is incorporated into the common practices of a profession, practitioners rarely know the source of the knowledge and are not likely to appreciate the contribution that earlier research had made to their work (p. 100)." One can choose the position that this is an error on the part of practitioners, that is practitioners need to be better informed, less naive about the impact of research on education. The opposite position, however, is just as persuasive, that is,

the blame lies elsewhere. Tyler again offers some insights into the blame that the researchers have to assume in this condition. He stated that the connection between the practitioner and the research and development enterprise had three obvious weaknesses:

1 - Much of it was one-way, from researchers and developers to practitioners, rather than two-way, in which the problems and needs of the practitioner were communicated to researchers and developers.

2 - It was indirect and informal, depending heavily upon the interests and perceptions of persons who did not view themselves as middlemen.

3 - It was slow, often taking several decades for the results of research and development to reach the the practitioner (p. 101)."

SCHOOL PSYCHOLOGY AND THE RESEARCH ROLE

You are probably wondering why these issues are being raised with you. After all, you see yourself as the "practitioner" who is being put upon by the research establishment, right? That is surely true, School Psychology is an applied profession, like education, law, medicine, etc., etc. But, you would grant that Psychology like the other professions mentioned is dependent on research to inform and direct practice. In fact, the roots of the profession are found in the reserch traditions of both education and psychology. To reaquaint yourself with the connection between "psychology in the schools" and the research traditions of both education and

psychology I recommend that you read Tindall's (1979) chapter in Gary Phye and Dan Reschly's book, School Psychology: Perspectives and Issues. Tindall's chapter, titled "School Psychology: The Development of a Profession" carefully traces the founding of the profession. His review illustrates the role of research in the "practice" of school psychology. As early as the first decade of the twentieth century research was an integral part of the functioning of those psychologists who worked in the schools. From that period to the present, research has appeared in the list of roles and functions that define school psychology practice.

The first major statement on the roles and training of school psychologists was made at the Thayer Conference in 1954 (Tindall, 1979). It is instructive to reiterate the specific recommendations that came out of that conference. These are summarized by Tindall as:

1 - Assessing and interpreting the intellectual, social, and emotional development of children.
2 - Helping to identify exceptional children and collaborate with other professionals in developing individual educational programs.
3 - Developing ways to facilitate the learning and adjustment of all children.
4 - Encouraging and initiating research and interpreting research findings applicable to the solution of school problems.
5 - Diagnosing educational and personal problems and recommending remediation programs.

As laid out in the conference proceedings, the role of the school psychologist was, and is a comprehensive and demanding one. There are difficulties with fulfilling such demanding activities. None the less, the place of research in school

psychology practice stayed an integral part in this and later conceptualizations of school psychology roles and functions.

The Thayer Conference was conducted at the impetus of members of the American Psychological Association (APA) and Division 16, School Psychology. Then, as now, the members of Division 16 of APA were predominantly doctoral level trained people. It has been conjectured in intervening years (Monroe, 1979) that the research role for school psychologists has been emphasized by university level faculty and does not, in fact, reflect the reality of professional practice at the local school system level. This might have been a legimate criticism at the time of the Thayer Conference when there were fewer practitioners at the sub-doctoral levels. Likewise, if this were a legimate criticism, one would expect that with the founding of the National Association of School Psychologists (NASP) in the late 1960's, the role of the school psychologist as researcher would have been, at the very least, de-emphasized in the standards for training and practice. A review of the materials produced by NASP on training and professional practice (NASP, 1978, a and b) reveals that the research role has been, in fact, emphasized as an important and integral part of school psychology practice. The documents which delineate credentialing, training, and provision of school psychology services, all feature the role of research in school psychology and its relation to education.

Despite the emphasis that research training and application aspects have received over the years since the founding of the

profession, there are those who place the role of research in school psychology practice in a less prominent position relative to all other roles. Bardon and Bennett (1974) place the role of research in an inferior position to others (i.e., assessment, consultation, etc.). They offer the following explanation for their conception of research in school psychology practice. "It is not by chance that this section ("Research in the Schools") comes late in this book. The school psychologist who engages in research activity as a major part of his work is a rare individual. The school psychologist is a practitioner of applied psychology employed primarily as a problem solver and an information giver (p. 157)." Bardon and Bennett state that research as they view it, is not a main or significant role for the school psychologist/practitioner. Yet they point out that the school psychologist is an information giver and a problem solver. There seems to be some discrepancy in their conception of "researcher" and that which Charlie laid out in the beginning sections of this book. Research <u>is</u> problem solving! A situation arises in the course of your daily practice and presents a problem. The school psychologist then has an opportunity to apply those most powerful of problem solving techniques, research methods to try to determine the source of the problem and possible solutions to it.

We are a little ahead of ourselves in defining research. However, the distinction needs to be made that what Bardon and Bennett seem to be calling research is the "publication" of research studies, and not the systematic process of problem

solving. They talk further in their section of research of the distinction between basic "about schooling" research and applied "for schools" research. It is the latter that the school system values, that research which "directly concerns school administration, staff, an parents" (p. 160). Bardon and Bennett go on to report further that this actual, applied, "for schools", problem solving research is not even seen as research at all and is seen as "helping with problem solving in schools. The difference is that school personnel are not accustomed to having research activity work for them in direct fashion" (p. 162). Their comments sound remarkably like those of Tyler, which I presented in the beginning portions of this section. Tyler (1978) said that research was not seen as useful unless it bore directly on practice. And further, he pointed out that while educational practitioners, in fact, relied heavily on research evidence for their day to day activities, they were, unaware of their debt to research. So we see that Bardon and Bennett are stating much the same thing as Tyler. In order for educational parctitioners to value research in their practice, they need to see its relevance to day to day practice. Perhaps, even more tellingly, they need to see research as not being "research." In the next section, I will show you how we school psychology practitioners can wed the two thoughts of research/problem solving.

The Definition of Research

In the previous sections we began to discuss the role of research in school psychology practice. In this section, as the title indicates, I will define research. There may be much here that you have heard already. Bear with me because I believe it is important to the discussion that we look at the definitions for research because these definitions will aid in the understanding of later sections which deal with existing research and the role of research in school psychology.

In reviewing the definitions for research that appear in the books on my shelves, I am struck by the similiarity of the definitions across authors and at different times. Some of the definitions I have found are these. Hillway (1969) has called research "the scientific investigation and solution of education's problems (p.3)." This seems to be the more traditional conception of the definition. I prefer the definitions of other writers in the field. Tuckman (1978) defines research simply as "a systematic attempt to provide answers to questions (p.1)." Mason and Bramble (1978), sounding much like Tuckman, define research as the "the search for answers to questions (p.1)." All three of these definitions have a common characteristic, and that is that research is the search for solutions.

The process used in the systematic solution of problems is called the Scientific Method. We are all aware of the steps in the Scientific Method, however, it is relevant to reiterate it

here. We owe the process to Sir Francis Bacon who in the sixteenth century was eager to put some order into the search for meaningful and predictable solutions to problems (Van Dalen, 1979). There are several different listings of the steps in the Scientific Method. I will list one gleened from several sources. Most of these sources have called on John Dewey for the list of steps. Here are the steps in that process. All of these steps require that the researcher:

Step 1 - Sense or realize that some problem exists.
Step 2 - Clarify the problem; its scope and nature.
Step 3 - Devise a plan for the research.
Step 4 - Evaluate the adequacy of proposed solutions.
Step 5 - Interpret and generalize the results into a larger body of knowledge.

As is clear the steps are deceptively simple. They are few and clear. But as most of you know adhering to these steps in looking for problem solutions requires rigor and patience.

The simplist definition for research is a process of problem solving. Its steps are few. But, what are the purposes for research? Phillips (1981) said that "research should inform our actions as school psychologists." To Phillips, research is action oriented. To Van Dalen (1979) "scientists do not want to know only what phenomena are, but also how phenomena act as they do"; "they also want to make predictions concerning the way a generalization will operate in new situations"; and, "one of the goals of scientists is to control natural events (pages 25, 26, 27)." So research is action oriented with the goals of prediction and control.

Some researchers make the distinction between "applied" and

"basic" research. Tuckman (1978) stated that the purpose of "basic" research is to develop a model, or theory that identifies all the relevant variable in a particular environment, etc. Conversely, "applied" research has as its goal the testing of a product. As mentioned in an earlier section these distinctions are at best arbitrary. What is important is not that school psychologists as practitioners do applied or basic research, but that school psychologists must solve problems. Of more importance than the basic/applied distinction are the qualities that the research must have in order to be effective. It is to these qualities that we turn now.

Qualifications of the Researcher

Brademas (1982) writing in the Educational Researcher states that "in no field more than education is it so important to find and make a connection between research and problem solving, between thinking and doing." School psychologists, as often times is the case, are in the best position to provide this link between the research endeavour and the application of the acquired knowledge. You are probably saying, and rightly so, that not every school psychologist is in the position of filling this role. We can argue about that point, but it is perhaps more important that we address the qualifications necessary to fill this role.

Barzun (quoted in Brademas, 1982) has a list of "searcher's virtues." These virtues are: "accuracy, love of order, logic, honesty, self-awareness and imagination." As someone who teaches school psychologists to administer, score, interpret, and explain intelligence tests, these attributes seem to fit well those necessary for the good psychological examiner (but isn't child study, just a research study with an N of one? Of course it is, and we discussed N=1 research in another section.) The last virtue "imagination" deserves further explication. Barzun provides the following:

> By that ingenious balancing of wish and reason which is true imagination, the seeker can make his way from what he knows and possesses to what he must possess in order to know more.

"The researcher of imagination searchers for alternative, for change, for new ways to solve old problems (Brademas, 1982)."

Barzun is not the only one who has developed a list of qualifications for the researcher. Beeman Phillips (1981) in a wonderful chapter titled "Reading and evaluating research in school psychology" has developed his list of qualifications. He states "the scientific method of problem solving... requires rationality, verification, advocacy, and sanctions for control." Phillips' list in conjunction with Barzun's list places tremendous responsibility on the shoulders of the researcher.

These qualifications of the researcher certainly place a heavy burden on the individual. Not everyone possesses these as a matter of course. I firmly believe, however, that one can be

trained to develop them. The NASP and APA guidelines spoken of earlier both include courses and experiences intended to promote these qualities in the school psychologist. The tasks we are called upon to address require that we work to that end. Some might say, and I am one of those, that there can be no more important qualities than those offered Phillips and Barzun.

To this point I have been talking about issues that (you are probably saying) you know a good deal about. The definitions for research, the qualities of the researcher, and the general aspects of research were all integral parts of your graduate training. I know this and you know this, but it is important to help determine why it is that more research/problem solving is not carried out more frequently in applied settings. If school psychologists have these research skills, why is it the "rare school psychologist" as Bardon and Bennett (1974) say, who does research? Lets turn to this focus in the next section in search for an answer.

Research or Lack Thereof in School Psychology Practice

You all must have access to or receive at least one of the major journals that address School Psychology issues. Has it ever occurred to you, as it has many time to me, that there is a host of information in these volumes that seems to never get translated into practice? Or at the very least, what I saw in practice did not mirror what I was reading in the

literature on school psychology. As I noted above, Tyler (1978) tells us that what seems to impact present day practice appeared in the literature twenty-five years ago. If that is so, it seems that a first step in wedding research with problem solving would seem to be the establishment of a process of translating that information stored in the research journals into everyday practice. This role might be referred to as that "problem solver and information giver" that Bardon and Bennett (1974) were quoted as saying earlier. This role is consistent too with the one that Phillips (1981) says school psychologists can so ably assume. Saying that this is a legitimate role and enacting it are two different things. Let me give you an example of one way this role was enacted by a prominent psychological researcher.

While in graduate school I had the opportunity to hear E. Mavis Hetherington of the University of Virginia speak. At that time I had a strong interest in families, divorce and its effects, step-parenting and the like. Dr. Hetherington and some colleagues had been doing research in this ares for a number of years (Hetherington, 1979). I was so much interested in the topic that I had developed a proposal for my dissertation in the area. My dilemma was that obtaining subjects for an area as sensitive as divorce and remarriage and its effects on children seemed insurmountable. I went to Dr. Hetherington's presentation armed with my single most important question "How do I find subjects for a divorce study?" Once the question and answer session began I quickly learned that same question was on

the minds of a number of those present. Dr. Hetherington told us matter of factly that she had little difficulty in obtaining subjects. In fact, she could not use all of those who had volunteered. This was too fantastic to believe. But, and here's the point for this discussion, Dr. Hetherington had no difficulty obtaining subjects because she has spent her professional life giving away the information in those "stuffy little journals", as she called them. She says that there was not a week that went by that she was not making a speech before civic clubs, church groups, parent organizations on developmental psychology and what it could tell parents about child rearing, normal development and the like. And, although Dr. Hetherington rarely received a stipend for her talks, she did not let her audience go without "paying" for her (and others') knowledge. She would not leave a meeting without requesting that those present who were interested and willing to serve as research subjects in her continuing research projects would fill out a 3 x 5 index card with some demographic information. Then, when she needed subjects for her divorce effects study or any other one, she had merely to go to her card files and select an appropriate sample. By using her acquired knowledge and by taking a proactive role in translating research findings for the lay public, she was (and, indeed, still is) able to carry out important yet sensitive research. Her subjects do not need to be convinced of the merits of "research" whether theoretical or applied, because she has informed them of its merits and applicability already.

The point to be drawn from the above discussion is that "information giving" and "problem solving" are part of the same process. Dr. Hetherington started her early research looking at the effects of parenting on children. As she gave more and more talks to parents she found that the model of parenting she carried around in her head gradually became reshaped as she encountered more and more non-traditional families. Her knowledge-sharing role shaped her research/problem solving role which in turn modified her knowledge - sharing role which further redirected her research/problem solving role which .....etc. You see, research/problem solving and knowledge/information sharing are not discrete events or activities. They are in fact parts of the same process. (Remember the qualities of the research: patience, persistence, creativity, imagination?). These then are what the E. Mavis Hetherington example illustrates, a very perceptive concerned professional who uses her knowledge and skills to solve problems and to help and inform the lay public.

This information sharing or knowledge transfer process has been studied extensively. The Human Interaction Research Institute published a document titled Putting Knowledge to Use: A Distillation of the Literature Regarding Knowledge Transfer and Change (1976) which is a very valuable resource for anyone interested in the topic. You need not, however, have a copy of this document in order to begin to do what Dr. Hetherington has done. In fact, I am sure that you do enact the knowledge transfer role in your day to day practice. Beginning

school psychologists are sometimes overwhelmed with the expectations placed on them by other professionals who legitmately want and NEED answers. As the title of the document says, knowledge leads to "change". It is not trite to state that for the practicing school psychologists, knowledge is, also, power. Don't be afraid of it. Use it to solve problems, yours and others; use it to bring about meaningful and efficacious change.

I ended the last section by saying that this section would address the problem of why research is not carried out more frequently by applied or field-based school psychologists. Part of the answer is, as the discussion above leads, that the research/problem solving role is seen as a discrete event separate from the other roles that are interrelated like the knowledge transfer or information giver role. Another reason why research is not often carried out in applied settings is the belief that research must be in publishable form to be real. I, Charlie and Steve have tried to convey that "research" is still research even if it never sees the journal editor's desk. Research is problem solving and good problem solving requires the application of those good research techniques discussed earlier. Still another reason why field-based school psychologists rarely carry out research is that they are stuck in one model of problem solving. Very often that model of problem solving is the diagnostic child study model. This might be exemplified by the refer-test-diagnose-place (RT-DP) model for problem solving. The RT-DP model deserves further

discussion.

One thing that Schooi Psychology training programs seem to do reasonably well is to train graduates to give tests, score them, interpret and report the results. Because so much of the training time and supervised experiences are spent in these activtiies, little time is left for exploring and learning alternative methods for problem-solving. What happens is the vicious cycle begins. School psychologists are trained best to give tests. Feeling comfortable because they have spent so much time with tests, school psychologists go out and test students when they are referred. The first choice of intervention (and there is this LEAP to intervention, at least in this limited sense) is the administration of psychological and educational tests to see where the problem lies. And, since the child was referred and, therefore, must have a "problem," further interventions such as special class placements or curricular change are recommended. This over developed skill, much like Popeye's overdeveloped arms, leads to a single minded, truncated set of strategies for problem solving. In Popeye's case, he belts it our with Bluto with or without the aid of spinach. Entertaining as the confrontations between Popeye and Bluto might be as cartoons, the inevitable knock-down, drag-out occurs in each episode, with the predictable result. In the school psychologist's case the senerio is much the same, out come the test kits. This over developed test administration skill leads field based school pscyhologists to over rely on tests. And, of course, because the school psychologist is

identified as the "test giver", he/she is seen as capable of intervening in only those problems for which a test is an appropriate intervention. Finally, of course, what frustrates the school psychologist the most and what places the heaviest burden on his/her time, and what, naturally, prevents research or alternative problem solving strategies, is the heavy testing load. Need I mention "Catch 22"; I didn't think so. All this leads to a bad case of "inability to define the problem". It is to that inability that I turn to next.

Bergan and his associates (see Bergan, 1977; Bergan & Tombari, 1976; Kratochwill & Bergan, 1978a for extended discussions) have identified and developed a process of behavioral consultation. Some of you may be familiar with the training materials published by Jeff Grimes (Gresham, 1982) which deal with Bergan's model. Bergan has broken the behavioral consultation process into three interviews: problem identification, problem analysis and problem evaluation. I will not go into a long discussion of these here; if you desire more information you can examine the references mentioned. What is relevant to this discussion is that in their research Bergan and his associates have found that the most important stage of the intervention process is the Problem Identification phase. Bergan and Tombari (1976) found that consultants who were able to identify the problem clearly were almost invariably able to solve those problems. Acting on this research evidence they have been able to develop a training program which successfully enables school psychology students to become better problem

identifiers and, thus, problem solvers (Kratochwill & Bergan, 1978b). An exciting aspect of this approach for me and for this discussion is that their model of problem solving does not involve testing per say. Further, the techniques for skilled problem identification acquired in learning their approach need not be applied in a behavioral paradigm only. These techniques are transferrable to other situations and settings.

From the discussions in this section, I have identified some reasons why field based psychologists infrequently engage in research. These are:

1 - Knowledge transfer and information giving are not seen as part of the research role. An example was given of how one researcher integrated information giving and research in complementary and interdependent ways.

2 - Research to most people is "published research," that which appears in journals. It was pointed out that research skills can be applied to any problem, published or not.

3 - The RT-DP Syndrome pervades (Star Wars references pointedly intended). Problem solving for most school psychologists falls into the refer-test, diagnose-place model of intervention. Because of this truncated view school psychologists fall victim to a psychoeducational "Catch 22."

4 - The reason why problem solving in ineffective, in most instances, no matter what types of interventions are attempted, is that school psychologists fail to clearly identify the problem. Bergan (1977) has developed a training model that has proved very successful in teaching good problem identification skills.

Section V - General Review of Research in School Psychology Practice

If you are still with me I would like to take a look at research as it does appear in the school psychology journals.

Though reviews of specific aspects of school psychology research are more frequently available, it is hard to find summaries of the areas that are researched in school psychology. Although somewhat dated, I would like to address two such reviews.

Phillips (1974), while editor of the Journal of School Psychology (JSP) wrote an editor's note to discuss the first three years of his editorship of the JSP. Some of his comments are worth noting even at this vantage point. For the three year period, 1971 to 1974, Phillips noted these characteristics of the manuscripts submitted to JSP, the source of those manuscripts and some of the topics those manuscripts reflected. There were more manuscripts from, as you might predict, university based psychologists, although those submitted by practitioners were accepted at a higher rate. In fact, an equal number of manuscripts were accepted from the two constituent groups. Phillips offered that the reason for this surprising split was that the better qualified persons in the field find the time for publication.

The field that was most represented in the three volume years was behavior modification. It seems, though, that this topic was on the wain in 1973. Those articles that seemed to be rejected the most, were the ones that might have been of most interest to practitioners; namely, classroom and learning studies, learning handicaps, and early education. It seems that these types of articles were rejected due to the low quality of the discussions and presentations, not necessarily due to the topics themselves. Before attempting an analysis of these

findings, it would be instructive to look at another study.

In the same year, O'Callaghan (1974) published a survey of school psychology research for the ten year period between 1963 and 1973. Unlike Phillips' report, O'Callaghan's study surveyed five journals. The trend that she noted was that over the years there was a widening of the topics which appeared in the journals. The consistently high topic areas for the ten year period were: instrument development and validation; clinical psychology; higher mental processing; instructional issues; professional identity (high in early range, lower later years); special education and exceptional children; and, assessment and referral. She expected that the trend for diversification in emphasis would continue if the patterns remained consistent.

A casual perusal of the journals which publish most school psychology articles indicates that O'Callaghan seems to have been correct in her projections. There are still strong trends to publish in the areas of assessment, instrument development and validation, special populations and their educational needs, and intervention strategies like consultation. It is perhaps a sign of the maturity of the profession that there are or appear to be fewer articles on the "role and function" issues, even though such issues need to be addressed. It should be noted that O'Callaghan and Phillips' articles were published before the passage of P. L. 94-142. We all know what that did for the relationship of School Psychology and Special Education. It is likely that if such a survey were conducted today we would see the impact of P. L. 94-142 in the literature of the period.

Further, with the present administration's plans to alter a wide array of the provisions of P. L. 94:142, the near future could also show some marked changes.

What do we take from these looks at research as it appears in the literature? We can see a gradual increase in the diversification of the articles that are accepted for publication. This review period parallels a period of remarkable growth of school psychology nationwide. The articles that appear in the literature reflect a broad role for the school psychologist. In the case of the Phillips review, we see that applied school psychologists do conduct research and seek to have it published. It would be interesting to determine whether this condition exists today.

Research in Applied Settings

If you are not convinced of the utility of research methods in problem solving by this time, it is probably too late for me to make a convert out of you. However, based on what we know about the time it takes, or has taken in the past, for research findings to filter down to the practitioner's level, the school psychologist as information giver and knowledge translator is increasingly more important. The school psychologist because of the unique vantage point s/he has must attend to the problems practitioners face in applying something new. Therefore, the applied school psychologist must take up two distinct aspects of

applied research: the problem solver as information giver, and the problem solver as applied researcher. As has been developed in the discussions throughout this book, these two aspects are part of the same dynamic, creative process.

Weaknesses in applications of research in the past, as Tyler (1978) told us, stemmed from three factors: the research process was one-way, from researchers to practitioners; the dissemination of research findings was informal and indirect; and, the dissemination/implementation process was slow. The school psychologist in this dual role of applied researcher/information giver is in a unique position to make the research/problem solving process two-way, more direct and more timely. You do not need me to tell you that there are teachers, regular and special, administrators and other educational professionals and parents who are in immediate need of these skills and services. As noted earlier, these professionals and parents look to psychologists for answers to pressing intervention and remediation questions. They need to know about normal as well as abnormal development. They need to know which strategies are most effective for which populations. They need to know where they can turn for reliable information about these and other matters.

Remembering the qualities of the researcher, perhaps the most important is imagination. The school psychologist must be prepared to take the leadership in suggesting new interventions or strategies of practice. The school psychologist must be able to use the problem solving skills acquired in research and

problems. A good resource for an overview of general problem solving is the book Problem Solving and Education: Issues in teaching and research, edited by David Tuma and Frederic Reif. As the title indicates, discussions of broad issues are presented. Another valuable book is Designing Evaluations of Educational and Social Programs by Lee Cronbach. This work is much less theoretical than the Tuma and Reif book. It provides step by step procedures for carrying out applied research and evaluation procedures. To give you a flavor for what Cronbach has to say I quote from the preface:

> Those who become investigators quickly learn that the formal, preplanned design is no more than a framework within which imaginative, catch-as-catch-can improvisation. Even in basic research, nature does not stick to the script... Not infrequently, questions arising out of the observations prove more important in the long run than the facts that that the study was designed to pin down. (p.x)

Other valuable resourses in this same vein are the following Books

Unobstrusive measures: Nonreactive Research in the social sciences by Webb and associates (1966) is a small volume and a gold mine of information on how seemingly innocuous events (e.g., replacement schedule for museum floor tiles) can provide the researcher with invaluable information about a system and its functioning. A second reference Quasi-experimentation: Design & Analysis Issues for Field Settings, is by Cook and Campbell (1979). You are correct in assuming that that latter

Campbell is the same as in Campbell and Stanley of Experimental and Quasi-Experimental Designs for Research (1963). The later volume with Cook is an expanded but in many ways an extension of the earlier volume. The Cook and Campbell book is full of examples that aid the reader in understanding the applications.

In reviewing the last section I am struck by the notion that school psychologists really don't need any additional resources to become good applied researchers, i.e. good problem solvers. These materials that I have mentioned are indeed valuable, but the vagaries of the real life situation often dictate the direction the applied researcher must go. After all, some of the most significant discoveries in human history have been the result of an attentive observer being open to the serendipitous event; penicillin is just one of many such examples. Perhaps most of all the applied practitioner applied researcher, problem solver needs to be open to the novel, the unexpected, the quirk. These are the events for which we have been trained.

EPILOGUE

It is strange, at least to me, that here I have been sitting at perhaps the most significant tool at the disposal of the applied or, for that matter, any researchers fingertips, the microcomputer, for many hours composing and editing this portion

of the book. The advent of the microcomputer will, (in some cases. It already has) profoundly reshaped the educational system. Microcomputers provide instant access to power; real, non-polluting, expandable, ever increasing information and technological power. Perhaps it is an indication of my own limited perspective that I did not weave into the body of this section a discussion of the implications of microcomputers for research in applied settings.

Think of it, on line capability with the world. The French national telephone system has a goal of putting one microcomputer in every home by the end of the decade and perhaps before. Their goal is to initiate people to an electronic "phone book" and then make the easy transition to other applications, for instance, banking, catalog ordering, television phones, etc., etc. Now there's a research project for someone, isn't it! Think of the impact the telephone had on rural America (I sit in Appalachia right now). Think of the other innovations in this century: the radio, television, satellite communications, space travel. But it just may be that this desk top microcomputer may out-strip those other innovations and applications. Its implications are truly unknown.

As you know, NASP has published a manual on computer applications in school psychology (McCollough, 1982). There is a computer users' group begun with a newsletter of its very own; pinted of course via the microcomputer. School psychology training programs are incorporating computer courses in the

required curriculum. Field based psychologists are taking "portable" micros to school buildings and transmitting their test results directly to the central office so that the report is ready on arrival. Special education IEP data are being stored on micros for instant access, modification, analysis. Evaluation data on delivery of school psychology services can be entered and instantly updated. No more frantic moments when preparing reports for the Psychology Services Director or the School Board. Report programs for the IQ and achievement tests are on the market; many errors could be eliminated in scoring if a computer took these raw scores, birthdates and did the mundane "table searching". Profound implications, truly incomprehensible.

But what of the "human costs" for this thrust into the 21st century? What about the ethical issues? What about technophobia? What about the real fear that the machines will take my place. What about the administrative decisions to purchase this computer or that software package? What about rapport and clinical judgment when the test are administered by microcomputers? Shouldn't these be some of the issues a "problem solver" and "information giver" must deal with and others cope with and address.

I still get chills when the space shuttle takes off and lands. I remember Saturday morning "Flash Gordon" (that an "a") episodes where you could see the guy wires on the "space ships". Are we prepared to deal with the real things and the implications they have for education and educator OF and FOR the

future? Talk about challenges for the "problem solver!" We'd best be flexible and imaginative and creative; our present requires it; our future demands it.

REFERENCES

Bandler, R. and Grinder, J. The Structure of Magic. Palo Alto California: Science and Behavior Books, Inc., 1975.

Bardon, J. I., and Bennett, V. C. School Psychology. Englewood Cliffs, N. J.: Prentice-Hall, 1974.

Bergan, J. R. Behavioral Consultation. Columbus, Ohio: Charles E. Merrill, 1977.

Bergan, J. R. and Tombari, M. L. Consultation skill and efficiency and the implementation and outcomes of consultation. Journal of School Psychology 1976, 14, 3-14.

Brademas, J. Higher education and the nation's future. Educational Researcher, 1982, 11 (7), 6-13.

Campbell, D. T., and Stanley, J. C. Experimental and Quasi-Experimental Designs for Research, Chicago: Rand McNally, 1963.

Cook, T. D. and Campbell, D. T. Quasi-Experimentation: Design and Analysis Issues for Field Settings. Chicago: Rand McNally, 1979.

Cronbach, L. J. Designing Evaluations of Educational and Social Programs. San Francisco: Jossey-Bass, 1982.

Ellis, A. and Harper, R. New Guide to Rational Living. North Hollywood, California: Wilshire Book Company, 1979.

Freedman, J., Carlsmith, J. M., and Sears, D. Social Psychology, Second Edition. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1974.

Getzels, J. W. Theoretical research and school change. In R. Glaser (Ed.) Research and Development and Social Change. Hillsdale, N.J.: Lawrence Earlbaum Associates, 1978.

Gresham, F. M. Handbook for Behavioral Consultation. Des Moines, Iowa: State of Iowa, Department of Public Instruction. (Des Moines, Iowa 50319), March 19, 1982.

Guba, E. and Stufflebeam, D. Evaluation: The Process of Stimulating, Aiding, and Abetting Useful Action. Bloomington, Indiana: Indiana University, 1970.

Hetherington, E. M. Divorce: A Child's Perspective. American Psychologist, 1979, 34 851-858.

Hillway, T. Handbook of Educational Research: A Guide to Methods and Materials. Boston: Houghton Mifflin, 1969.

Kelly, George A Theory of Personality: The Psychology of Personal Constructs. New York: W. W. Norton and Company, Inc., 1963.

Kratochwill, Thomas R. and Bergan, John R. Evaluating Programs in Applied Settings through Behavioral Consultation, Journal of School Psychology, 1978, 16, 375-386.

Kratochwill, T. R. and Bergan, J. R. Training school psychologists: Some perspectives on a competency-based behavioral consultation model. Professional Psychology, 1978, 9, 71-82.

Mason, E. J. and Bramble, W. J. Understanding and Conducting Research: Applications in Education and the Behavioral Sciences. New York: McGraw Hill, 1978.

McClelland, D. Testing for competence rather than intelligence. American Psychologist, 1973,28, 1-14.

McCullough, S. Computer Applications in School Psychology: Survey Report. National Association of School Psychologists Assistance to the States Committee, March 15, 1982.

Monroe, V. Roles and status of school psychology. In G. D. Phye and D. L. Reschley (Eds.). School Psychology: Perspectives and Issues. New York: Academic Press, 1979.

National Association of School Psychologists. Standards, Washington, D. C.: NASP, May, 1981.

O'Callaghan, S. Publication trends in school psychology: 1963-1973. Journal of School Psychology, 1974, 12, 269-275.

Phillips, B. N. Reading and evaluating research in school psychology. In C. R. Reynolds and T. B. Gutkin, (Eds), The Handbook of School Psychology. New York: Wiley, 1982.

Phillips, B. N. Editor's note: Trends in Journal content. Journal of School Psychology, 1974, 19, 259-262.

Phillips, G. and Paskewicz, C. Retention in Elementary Schools. School Psychology, 1981, 2, 25-31.

Phillips, G. and Paskewicz, C. The Effects of Knowledge of Research on the Rate of Retention in Elementary Schools. School Psychology, 1982, 3, 16-21.

Phye, G. D. and Reschly, D. L. (Eds.) School Psychology: Perspectives and Issues. New York: Academic Press, 1979.

Piaget, Jean Piaget's Theory in Mussen, P. (ed.) Carmichael's Manual of Child Psychology. New York, NY: John Wiley & Sons, Inc., 1970.

Postman, Neil Crazy Talk, Stupid Talk. New York, NY: Delecorte, Press, 1976.

Putting Knowledge to Good Use: A Distillation of the Literature Regarding Knowledge Transfer and Change. Los Angeles, CA: Human Interation Research Institute in collaboration with the National Institute of Mental Health, 1976.

Reder, L. and Anderson, J. Reported in learning: Just the Facts, Ma'am. Psychology Today, 1982, 16, (4) 12-14.

Reynolds, C. R. and Gutkin, T. B. (Eds.) The Handbook of School Psychology. New York: Wiley, 1982.

Seligman, Martin Helplessness. San Francisco, CA: W. H. Freeman and Company, 1975.

Shuck, A. and Paskewicz, C. A Successful Mainstreaming Project: An Exception to the Rule (in press).

Tindall, R. H. School Psychology: The development of a profession. In G. D. Phye and D. L. Reschley (eds.) School Psychology: Perspectives and Issues. New York: Academic Press, 1979.

Tuckman, B. W. Conducting Educational Research. (2nd Edition) New York: Harcourt Brace Jovanovich, 1978.

Tuma, D. T. and Reif, F. (Eds.) Problem Solving and Education: Issues in Teaching and Research. Hilldale, NJ: Lawrence Earlbaum Associates, 1980.

Tyler, R. W. How schools utilize educational research and development. In R. Glaser, (Ed) Research and Development and Social Change. Hillsdale, NJ: Lawrence Earlbaum Associates, 1978.

Van Dalen, D. B. Understanding Educational Research: An Introduction. (4th Ed.), New York: McGraw-Hill, 1979.

Webb, E. J., Campbell, D. T., Schwartz, R. D., and Sechrest, L. Unobstrusive Measures: Nonreactive Research in the Social Sciences. Chicago: Rand McNally, 1966.

West, J. and Kirby, J. Troubled Family Interactions and Group Intervention: An Overview. The Journal for Specialists in Group Work. 1981, 1, 3-7.

Now Go Out And Do Some S.EX.